

- Santa Barbara. Travelers Hotel, 23 West Haley St. 1.00 up. Meal, 217 State St., 1.00 up. St. Francisco, 24 E. Victoria St. \$1.25
- Barbara, State + City Sts., \$1.50 up.
- Moronet Hotel, \$1.25. Also place near Bakersfield, corner; but eating place in town.
- Fresno. Hotel Plaza. \$1.00. Tiny's Waffle Shop, is best eating place.
- Valley Oaks. - 4 mi. W. of Lower Lake by S. edge of highway. Guinda, Chubbuck
- Marble Oak. - Bonquet Canyon C.C. Camp. (near San Luis O. Co.)
- River Victoria. cf. note in Jefferson Cor., 1930 vol. by V. K. Chesnut.

- La Paz, San Luis Obispo Co. Mrs. Birma Stille MacLean collected *Monardella breviflora* Aug. 4, '33
- Dr. Vesta Holt, Chico State Coll.

Surf
Monardella crispata

Providence Mts.

- *Monarda pekinata*. Van Triggers, New York Mts.
- *Monardella linoides*

nos. 18,653
to 19,270.

Left the Forest Institute this Thursday morning, Apr. 14, saying goodbye to the Superintendent, R. A. Weideman, and thanking him for his courtesy. Bade goodbye to Lloyd Austin, with many thanks; and also Fred Schumaker. Also W. P. Cummings. Stopped at the Austin home to say goodbye to Mrs. Austin, since the Austins entertained me at dinner on Saturday which was very pleasant. They have three nice children, Norman, the boy, and two girls Sylvia and Julia.

I go down to Placerville, get breakfast, service the car and get off on the road to Lone at 10:00 o'clock.

"No. 18,653. *Limnanthes striata*
Jepson. Swales, making a
show of color. Eldorado town.

"No. 18,654. *Nemophila wenziesii*
Nashville, Eldorado Co.

"No. 18,655. ^{=*Microsteris*} *Collinsia gracilis* Dougl.
See vol. 57, p. 255. Nashville.

= *Gilia gracilis* Hook. var. *villosa* Jepson
or Hoover.

"No. 18,656. *Collinsia sparsiflora* F. & M.
var. *collinsii* ^{newson}.
Nashville. Hill slope, clay soil

See p. 263.

"No. 18,657. *Eschscholtzia*
Rocky bank; showy colony.
Cor. yellow, say canary yellow, not
gold. Nashville.

"No. 18,658. *Plectritis*

See p. 268. With no. 18,656

"No. 18,659. *Delphinium gracilentum*
^{greene}
Fls. dark purple. Rich banks.
Nashville.

"No. 18,660. *Nemophila heterophylla* F.
& M. Steep banks in moist or
shady places. Nashville, Eldorado Co.

p. 262.

- Cont. from *Collinsia*

No. 18,656.

Upper lip blue or bluish, lower lip
parallel (in line) with tube. Upper lip
a little ascending, notched as in
no. Keel slightly hairy at apex. Gland
as in no. ^{18,665} Upper pair stamens hairy
along one side; lower pair glab. or
subglab. - I seem to see no dif-
ference between this and no.

The tube in this (no.) bears a
distinct notch on upper side at
junction with throat. In no.
it is not quite so marked.

w. Amador Co.

No. 18,661. *Sanicula*

Nashville, Eldorado Co.

No. 18,662. *Layia fremontii* (T. & G.) Gray

Rays deep canary yellow,

the upper portion pure white. Open
flats.No. 18,663. *Micropus californicus* F. & M.

immature

This involid plant on

flat in good soil. Waits road sta., Amador Co.
can open
dore Bo.No. 18,664. *Trifolium variegatum* Nutt.var. *variegatum*
bristles magenta-purple,

with white tips. Wet depression.

Waits road sta., Amador Co.

No. 18,665. *Collinsia sparsiflora* F. & M. var.*collina* Newson. See description vol. 57, p. 254

Jones, Amador Co.

No. 18,666. *Collinsia gracilis* Dougl.= *Microsteris gracilis* (Hook.) GreeneJones, Amador Co. = *Gilia gracilis*
var. *villosa* Jepson
+ HooverNo. 18,667. *Amsinckia intermedia* F. & M.

Corollas deep orange. Jones.

No. 18,668. *Lithospermum affinis* Gray

fine colony on a rocky bank.

Jones, Amador Co.

No. 18,669. *Trifolium*

slightly shady flat at foot

of bank. Jones, Amador Co.

No. 18,670. *Layia fremontii* (T. & G.) GrayOpen flat, ^{dry, rocky in summer.} Rays as in 18,662. Jones.No. 18,671. *Baccharis*

Jackson Valley, Amador Co.

No. 18,672. *Orthocarpus erianthus* Bth.This is common everywhere in
the lower foothills. Hills s. of Jackson Valley.No. 18,673. *Lupinus bicolor* Lindl.Amador Co.
Open hills, south of Jackson Valley.— I have been studying *Polemoniaceae* in
the laboratory again. Each time one does this,
one has a new impression of old species
when met once more in the field. When I
saw in the foothills (No. 18,666) the plant
listed in my Manual as *Phlox gracilis*,
I could think of nothing but *Col-
linsia* for it.

✓ no. 18,674. *Trifolium depauperatum*
open hills. Desv.

✓ no. 18,675. *Orthocarpus attenuatus*
Gray. Open hills.

✓ no. 18,676. *Trifolium gracilentum* T. & G.
open hills

- I turn westerly from Lone and turn south on road through the hills (no. 18,671-18,676) near Jackson Valley; go on south westerly and stop again at a spot in the hills (all lone and with few *Quercus douglasii*) where an old time road to the east leading off the main highway has been closed (but still both sides fenced), showing a former lone). This road projects a bit to the west of the main highway and I drive in on it, to the first little rise and make lunch. About this spot, I botanize and collect (cont. below).

- Cont. from p. 262. *Plectritis* no. 18,658.

Cor. pink, slender, its spur twice as long as tube. Fruit densely clothed with short spreading hairs.

-(Cont. from above) nos. 18,677 to 18,684. It is a very lovely locality. The swales in the gentle hills are filled with lakesets of color, (cont. p. 268)

✓ no. 18,677. *Linum catharticum* Benth.
Low flat. ^{rosea} det RB

✓ no. 18,678. *Montia fontana* L. 1958
Low flat.

✓ no. 18,679. *Trifolium variegatum* Nutt.
var. *variegatum* Cor. deep purple, tips white.
Making lakes of pure color in swales in the hills.

✓ no. 18,680.

This composite with pale yellow flowers in wet adobe, now very hard and dry.

✓ no. 18,681. *Baeria*
Low hills

✓ no. 18,682. *Alchornea cristata* Greene.
This barage in depressions in the hills.

✓ no. 18,683. *Ausimkia* ^{Menziesii} ~~intermedia~~ F.
S.M. Low hills; cor. dark yellow.

✓ no. 18,684. *Achyrocline mollis*
Schauer. Low hills

no. 18,685. *Thysanocarpus radicans*
Low hills; a marked ^{branch} colony
3 mi. nr. of Clements, nr. San
Joaquin Co.

no. 18,686. *Platystemon californicus*
2 mi. nr. of Clements, nr.
San Joaquin Co. open hills

no. 18,687. *Orthocarpus purpureus*
Bth. open hills, 2 mi. nr. of
Clements, San Joaquin Co.

- Cont. from bottom p. 267.

each color by itself, as the *Trifolium* (no. 18,679), *Linum* (no. 18,677), *Barris* (no. 18,681), *Orthocarpus* ^{purpureus}. On the hills a short distance east are scattered trees of *Quercus douglasii*, just coming into tender fresh green leaf. I take it these hills where I now am are about ^{or above} the headwaters of Goose Creek, nr. San Joaquin Co.

[cf. itinerary p. 266 et seq.]

This locality is before reaching Clements (see p. 268 at top).

- Cont. from vol. 57, p. 231.

- At the Forest Institute, looking southeast, I saw plainly on the far horizon, say 50 miles away, a high ridge, a long long back or elephants back or two, lying well out in the foothills of the Sierra Nevada.

I am now very nearly opposite them, here at my noon camp (cf. middle p. 266), and I see that the big foot hill mountains are Bear Mt. and Gopher Ridge, which I have sometimes come over on the way out from Cedarvale Big Trees. As seen from above Placer ville, they carried snow on their north slopes.

Berkeley, Apr. 19, 1938.

Schoof of the University News Service called this afternoon in order to get material on John Muir for a University broadcast.* I gave him a long talk on Muir's powers of observation in the field, the glowing strength of his words in describing sunlight, sky, trees, grass, flowers; of his appreciation of the beautiful combined with his fighting spirit in defense of the mountains, canyons and forests. I also told of various personal experiences with John Muir in the field.

Vacaville, April 25, 1938.

The native vegetation is very rank this year! In the orchard at Little Oak I am reminded of boyhood days. I collect the following. See also note below.

* John Muir Centenary.

Vacaville, Apr. 25, 1938.

(Little Oak ranch).

- No. 18,688. *Mimulus guttatus* DC.
Low spot.
- No. 18,689. *Lupinus polycarpus* Greene
Common.
- No. 18,690. *Achrya chaena mollis* Sch.
Frequent.
- No. 18,691. *Trifolium microdon* Nutt.
Infrequent.
- No. 18,692. *Trifolium amplexens* T. & G.
Frequent in low spots. Two
folders taken, each $\frac{1}{2}$ of a single
plant.
- No. 18,693. *Mimulus latidens* Greene.
Low spots, infrequent.
- No. 18,694. *Orthocarpus purpurascens*
Bth. The only individual noticed.
- No. 18,695. *Trifolium tridentatum*
Abundant, dominant
over a square rod or more here and
there.
- No. 18,696. *Trifolium fucatum* Lindl.
Dominant in low spots. The

two folders taken are about $\frac{1}{6}$ of one individual. The individuals were wide-spread and rank, 3 to 4

ft. broad, the most luxuriant ones No. 18,697. *Trifolium gracilentum* T. & G. Rare.

The Native Vegetation in the Orchard at Little Oak.

The vegetation is very rank, the *Avena falua* comes nearly to my shoulders in places. *Avena falua*, *Medicago lupulina* and *Erodium cicutaria* are by far the most abundant species but do not quite take the whole orchard. Indeed there are places where other species are dominant. In low spots, too wet for the three species mentioned above, various native species come in. There was not time to make a full collection, but all the more prominent species. This brief list

is important as reflecting the species which dominated the plain of the Sacramento in primitive days.

Next I went to Graveyard Hill. The uncultivated portion of the hill is almost completely dominated by the natives. This area has never been under cultivation as a whole; nor grazed by cattle. It was set off as a graveyard ^{since set off as a burial place} about 1860 when the native vegetation had been little disturbed. On it *Trifolium tridentatum* is one of the most abundant species. *Ranunculus californicus* was abundant earlier. See the list pp. 274-276. It is by no means a complete list; only such species as could be hastily gathered.

"No. 18,698. *Trifolium ciliolatum* Benth.

"No. 18,699. *Wyethia angustifolia*
(DC.) Nutt.

"No. 18,700. *Ranunculus californicus* Wats.
Notice the broad green
styles. Abundant

"No. 18,701. *Sarricula bipinnatifida*
Common.

"No. 18,702. *Orthocarpus erianthus*
Bth. Usually on sterile
or gravelly hills or flats where com-
petition is less keen - where
it forms extensive sheets of
color - here it is in good soil
with other rank-growing species.

"No. 18,703. *Lupinus polycarpus* Greene
Common; in places abun-
dant.

"No. 18,704. *Trifolium* ^{*ormakissii* Lehm.} ~~*bicolor*~~
abundant; perhaps the
most abundant of the com-

spicuously flowering species.

"No. 18,705. *Orthocarpus purpurascens* Bth. Common; abundant in
spots.

"No. 18,706. *Louretium*
Frequent on the hill top.

"No. 18,707. *Lupinus bicolor* Lindl.

"No. 18,708. *Brodiaea pulchella* Greene
- *Dichelostemma*

Crown consisting of 3 stamens;
edges involute a bit, cleft over half-
way down, approximate around the
central anthers, stamens half as
long. Perianth lavender. Blue. Only
2 individuals seen. On hill-top.
I was surprised to find it there.
B. capitata is common, but now
past anthesis mainly.

"No. 18,709. *Sisyrinchium bellum*
Wats. Probably more common
earlier.

"No. 18,709a. *Orthocarpus purpurascens*
Bth.

Vacaville, Apr. 25, 1938.

(Gravyard Hill)

- ✓ No. 18,710. *Ausimichia intermedia* F. & M.
Infrequent.
- ✓ No. 18,711. *Trifolium fucatum* Lindl.
A colony at the eastern
lower slope of the hill.

Solano Co. Swissun, May 1, 1938.

- ✓ No. 18,712. *Puccinellia simplex* Scribn.
(det. B. Crampton, 7/77)
This grass grows in low
spots, too much flooded for other
species.
- ✓ No. 18,713. *Deschampsia danthonioides* (Trin.)
(det. B. Crampton, 7/77) ^{Munro ex Benth.}
This grass with 18,712 where the
water in winter was less deep;
forming marked colonies 4 to
12 feet across.
- ✓ No. 18,714. *Hordeum depressum* (Scribn. & Smith)
(det. B. Crampton, 7/77) ^{ex det.}
This grass grows
with 18,713.
- ✓ No. 18,715. *Pleuripogon californicus*
(Nees) Benth. ex Vasey
This grass with 18,712.
(as det. B. Crampton, 7/77)

Gates Cañon, Vaca Mts., May 1, '38.

Solano Co. Wooded cañon side.

- ✓ No. 18,716. *Trifolium microcephalum*
Pursh.
- ✓ No. 18,717. *Microseris linearifolia*
steep slopes.
- ✓ No. 18,718. *Melica torreyana* Scribn.
(det. B. Crampton, 7/77)
This grass grew on steep
slopes in thin tufts.
- ✓ No. 18,719. *Pellaea andromedaefolia*
(Kaulf.) Fee
Protection of bushes.
- ✓ No. 18,720. *Sisyrinchium bellum*
Wats.
- ✓ No. 18,721. *Chiantthes*
Pityrogramma triangularis (Kaulf.) Maxon var.
triangularis North slope. Steep bank.
- ✓ No. 18,722. *Eriodictyon calif-*
ornicum
- ✓ No. 18,723. *Festuca pacifica* Piper
(det. B. Crampton, 7/77)
This grass not common.
- ✓ No. 18,724. *Poa scabrella* (Thurb.) Benth.
(det. B. Crampton, 7/77) ^{ex Vasey}
A frequent grass.

No. 18,725. *Pityrogramma triangularis* (Kauff.)
Maxon var. *triangularis*
This fern in shade of
bushes, steep rd. slope.

- Drove this morning from Berkeley
to Vaca Valley to the J. M. Brazelton
ranch. Did not finish my talk with
him until about 1:00. Drove to Millerton
Sharpe's place in center of valley. Went
into Vaca Mills and a little after 3:00
drove with Sharpe up Gates Cañon
past the main forks on the road
to Collins Camp. Road narrow, still
a little wet. In about a mile
above forks or maybe $1\frac{1}{2}$ mi.
parked car, walked on, took
branch wagon trail grade to left
to top of lateral ridge where is
an abandoned fruit ranch - the
brothers Freitas. On this walk
found the whole mountain
side in a state of delightful

spring beauty - everything in
luxuriant condition, all inspired
as if in its primitive state.
The pleasure of it is very great.
In the little open flowering
plants are abundant. *Calo-*
chaetus pulchellus is flowering
freely and makes entrancing
little garden spots here and there.
Rathynus watsoni climbs on
bushes and develops leaves upon
terrace of flowers and foliage
in fine array. Great stalks
of *Chorogalum pumilicolum*
are already 5 to 6 feet high
but not yet showing buds -
although branches of the infl-
orescences are being developed.
A multitude of flowers: *Eriophyllum*,
Wyethia, *Heemophila*. The cañon in
its luxuriance and absence of "civilized"
spoils carries me straight

Back to boyhood days afield in the Vaca Mountains.

No. 18,726. *Ranunculus hebecarpus*

H. & A. Opens on wooded nr. slope.

— Another of the fine plants observed on this walk (cf. p. 278) is *Aristolochia californica*.

May 7, 1938.

No. 18,727. *Collinsia sparsiflora* F. & M. var. *collina* ^{Newson}. Corolla pink; also whitish plants.

Calyx pubescent inside, glab. outside. Upper pair stamens inserted lower than the lower pair. Filaments of upper pair with scattered hairs on one side, i.e. the upper side. Filaments of lower pair glabrous. Keel a little hairy outside. Throat of corolla slightly hairy.

Summit of the ridge at head of Weldon Cañon. Gland a prominent cylindric process standing vertically on side of tube.
Upper

No. 18,728. *Fraxinus dipetala* H. & A.

A fine show of this on upper slopes. Bushes 8 to 14 ft. h., in full flower, making a brave show!

No. 18,729. *Trifolium bifidum* Gray
on an open adobe hillside

May 9, 1938

Adams Co.

near mouth of cañon. It occurs in dense pure colonies 1 x 2 feet up to 3 x 4 feet; extremely dense stand.

No. 18,730. *Eriophyllum*

with 18,729.

No. 18,731. *Gebryrachaena mollis*

Sch. with 18,729.

No. 18,732. *March*
~~*Schmoeocystis*~~ *watsonii*
(*Cognatus*) Greene

Summit of the ridge, at head of Weldon Cañon in an open place.

Frequent.

~~Solano~~ *Benicia Hills*, * May 10, 1938. * ^{500 p.} 296.

No. 18,733. *Microseris Douglasii* Tenella

Blue adobe, friable when dry,

in spots barren in the main of other

No. 18,733a. *Castilleja affinis* H. & A. [plants]

No. 18,734. *Festuca pacifica* Piper

(Det. G. Chumpton. 7/77)

This grass on adobe hillslope

*Cont. P. 296.

* The particular locality is the high point of the new American Cañon road, the high point of the spur going north.

(Lower cañon). May 11, 1938.

- *Sphaecale calycina* in fl.

- *Asclepias californica*

- *Acer monophyllum*

- *Platanus arbutifolia*

- *Sanicula menziesii*

- *Umbellularia californica*

- *Calochortus pulchellus*

- *Barbarea vulgaris*

- *Oxyeris wislizenii*

- *Populus fremontii*

- *Vitis californica*

- *Collinsia bicolor*

- *Brodiaea volubilis*; individuals scattered but frequent.

- *Rhus diversiloba*

- *Scrophularia californica* C. + G.

- *Eriodictyon californicum*

- *Sambucus glauca*

- *Calycanthus occidentalis*

- *Ceanothus sorediatus*. A cleared n. hillslope (facing n.) has been

repossessed by chaparral, or rather is being repossessed, with *Ceanothus cordatus* as dominant, *Rhus diversiloba* as secondary dominant. On opposite side of cañon a strip above an orchard is reverting, with *Ceanothus cordatus* as the pioneer.

- *Diplocarpis glutinosus* Nutt.

Lupinus luteolus, fine along
common sandstone slope.

- *Baccharis pilularis*, a pioneer on broken ground.

- *Rhamnus crocea* var. *ilicifolia*.

- *Barbarea vulgaris* is very common along the roadway

The upper slopes, both north, south and west are in the main dominated by Chamise. In gulches, swales or in cañons there comes in, in association, *Umbellularia californica*, *Aesculus californica*, *Quercus wislizenii*. In association with the Chamise are *Quercus dumosa*, *Ceanothus curvatus*, *Rhus diversiloba*, *Arctostaphylos glandulosa*. *Ceanothus curvatus*, *Arctostaphylos glandulosa*, *Rhamnus ilicifolia* and *Quercus dumosa* seem to me far less abundant than fifty years ago; and Chamise more abundant. Fire has been active in these fifty years and tends to favor the Chamise. These notes made at the first turn of the road, coming out of cañon bottom, at a little mountain ranch.

At this point (cf. bottom p. 285) are also:

- *Glennaria* (no. 18,762)
- *Calochortus pulchellus*, in the brush, dry rocky slope.
- *Chlorogalum pumilioides* (not yet "shooting").
- *Lomatium macrocarpum*
- *Galium* (no.)
- *Castilleja* (no.), dry brushy slopes
- *Eriodictyon californicum*
- *Scrophularia californica* C. + S.
- *Solanum* (no.)
- grass no opens on brushy slope.
- *Proximus dipetala*. Clumps of crown sprouts scattered through the brush on nr. slope, 8 to 13 ft. h. (cf. no. 18,728. ante).
- *Quercus wislizeni* I do not see a single individual about

on 14
10 or 12 feet in the brush; with testimony to the ravagings of fire and the steady aridization of the range. A good deal of it in the chaparral.

- *Zygadenus* common on brushy slope.
- *Sphaelos calycina*
- *Whipplea modesta*, dry brushy slope
- *Thelypodium lasiophyllum*
- *Pickeringia montana*
- *Arctostaphylos manzanita* Parry.
3 individuals at first n. + s.
zig-zag below summit. 26
bark color different from that of
A. glandulosa: *A. manzanita* = red mahogany. *A. glandulosa* = dark mahogany
- A sickle bill thrush flutters across the wagon grade.
- *Chonilla* disappears from the north east slopes which has much

oak and br. glandulosa.

- *Angelica californica*
- *Chaenactis sorediatus* in fl.
Noted only high up. *C. cuneatus*
now out of flower.
- *Holodiscus discolor* - colony within
1/4 mile of top.
- *Lotus crassifolius* A remarkable
plant, its shoots strongly pro-
lous, at this time shooting up 1
to 3 ft. high, with few leaves as yet.
- "*Scrophularia californica* C. & B.
Hundreds of plants stripped of foli-
age by caterpillars, the younger
stems also eaten and the points
reduced to blackened stubs.
- *Jorjya fremontii*
- *Pilos malvaceum*
- *Sambucus glauca*, within three
hundred yards of top on east slope,
in gulches.

- *Wyethia* (no. 18,770)
rays 19, 16, 13. Open hillside.
- *Cercocarpus parvifolius*
at summit, north slope.
- *Quercus Kelloggii*, only at sum-
mit.
- *Brodiaea capitata*, open hillside.
- *Quercus douglasii* in woods at
summit.
- *Linum subifrons*
- *Echscholtzia californica*
- "*Cynoglossum grande* Dougl.
- "*Pedicularis densiflora* Bth.
- *Barbarea vulgaris*, common
on the upper slopes and all
the way to summit, especi-
ally luxuriant on broken
ground along the new road-
way, becoming in some places
2 to 2 1/2 feet high.

- Clematis (no. 18,762)

Trunk cable 13 feet long, attached at upper end to branch of shrub 5 ft. in in where new flowering shoots now show flowers. Cable of fairly uniform diameter, $\frac{3}{4}$ inch on average.

May 11, 1938.

- Castilleja (no. 18,733)^a affinis H. & A.
Calyx lobes cleft ¹/₂ half-way, the whole lobe deep crimson, as also the lobes of the bracts. Gales greenish, glandular-pubescent, its membranous margin crimson.
This is a much more showy species than no. 18,756. No. 18,733 is greener, has larger leaves, showier bracts. The galea is less conspicuously extruded than in no. 18,756. The latter is a species with woolly herbage.

- *Lupinus* (no. 18,777), see p. 301.

Corolla yellow, with a tinge of bronze. Colonies on steep south slopes near mouth of Weldon Cañon.

Keel densely ciliate on lower part. Wings aging bronze towards tips. Ridges on center of banner pubescent (or one might say ciliate.)

The flowering branches tend to be umbellate on the main fistulose stem about 1 foot or so above the ground.

The folders with this no. 18,777 represent about $\frac{3}{5}$ of one individual.

- *Erysimum* (no. 18,771), see p. 301

This was collected at the summit of the main ridge. I climbed to a little rounded hill just south of the pass at the summit and noted across a little swale of the west slope, a hill beyond with very large golden poppies ^(E. scholtesii) standing very tall, the flowers stunning for their size and deep color. After looking a second time at this glowing scene extending up the hill some distance I decided the plants were not poppies, but possibly *Erysimum*. At any rate I climbed across to see. The plants are *Erysimum*, the racemes very compact and very bronze gold. Perfectly splendid plants in little clusters scattered here and there, facing the west and lit by the afternoon sun.

- *Calochortus pulchellus*, no. 18, 778. Sep.
p. 301. Glandular hairs on petals few
and near the gland, the hairs
dark or black on lower part, yellow
on upper part.

This species is abundant
this year - abundant, that is,
as compared with ordinary
years. It occurs from near the
mouth of Weldon Cañon well
upon the brushy slopes above
the settler's house referred to on
p. 285 where the road comes out
of the cañon bottom onto the
open slopes in order to zig-zag
to the top.

When I was here in the cañon a
few days ago with Nat Tate,
he talked with a settler named

Riley who told him that
in this unusual year he had

found a flower never found before
in these mountains. On going up
the cañon today I spotted a set-
tler I thought might be Riley,
spoke to him and it proved to be
he. I asked him about the rare
flower. It was difficult to find in
more than one sense. First, he had
to tell me his entire life history
and how he happened to come and
live in these mountains. After
that, - well, the flower was hard
to find. At any rate he had never
seen it on his ranch before this year.
I noted that the matter narrowed.
I went on to my car. But soon
Riley overtook me with two of the
plants - *Calochortus pulchellus*!
He was disappointed when I gave him
the name Fairy Lantern, because
he well expected me to say

I had never seen them before,
nor any one else. The point is
that in a year of marked

Cont. from bottom page 286. (282)

Shen. Co. Benicia Hills, May 10, 1938 * see p. 298.

✓ no. 18,735. *Microseris douglasii* Tenella
adobe. Same as 18,739
Not mounted.

✓ no. 18,736. *Layia chrysanthomoides* (Dr.) Gray
adobe. Rays sulphur-yellow, white tips.

✓ no. 18,737. *Trifolium bifidum* Gray

✓ no. 18,738. *Lasthenia glabrata*

✓ no. 18,739. *Microseris douglasii* Tenella

✓ no. 18,740. *Euphorbia*

✓ no. 18,741. *Poa scabrella* (Thurb.) Benth. ex Vasey
(det. B. Crampton - 7/77)
This grass in scattered tufts

✓ no. 18,742. *Collinsia heterophylla* Gray
ham.

✓ no. 18,743. *Keckleria cristata* (L.) Pers.
(det. B. Crampton - 7/77)
This grass in close tufts.

✓ no. 18,744.

This imuloid on grassy adobe

hillslope, hidden by other vegetation.

✓ no. 18,745. *Orthocarpus attenuatus* Gray.
Grassy slope.

and unusual climatic phenomena,
such as this last season, the
simple settler's mind is awakened a

Cont. from bottom p. 296.

Benicia Hills, May 10, 1938 * see p. 298.

✓ no. 18,746. *Convolvulus subcaulis* Greene.
Just beginning to flower.

✓ no. 18,747. *Allium*

Perianth pink, the tips in-
[bright] curved, in age and bladderly-inflated
-convex over the growing pod.

✓ no. 18,748. *Orthocarpus lithospermoides*
Bth. A splendid colony on the
hillslope; a dominant.

✓ no. 18,749. *Phacelia distans* Bth.
Rocky hillslope.

✓ no. 18,750. *Galium*

✓ no. 18,751. *Platystemon californicus*
Benth.

bit and he observes various things which he has passed over before.

Cont. from bottom p. 297.

Benicia Hills*, May 10, 1938

✓ No. 18,752. *Trifolium olivaceum* Greene
Solano Co.

✓ No. 18,753. *Clarkia*
Jodelana

✓ No. 18,754. *Melica californica* Scribn.
(det. B. Crompton - 7/77)

This grass frequent on the slope.

✓ No. 18,755. *Orthocarpus purpurascens*
Bth.

*

In traveling north from Valleys one passes (by the American Cañon road) over a high lateral spur of the main ridge ^{of Benicia Hills} before coming to the pass in the main ridge. It is on this hill that I collect nos. 18,733 to 18,755. It is Hunter Hill.

✓ No. 18,756. *Bastillea foliolosa* H. & A.

Calyx-lobes carmine-tipped, ^{between the lobes} emarginate; cleft ^{more shallow in} front than behind. Corolla: galea extruded, greenish, with yellowish membranous margins above; lower lip of 3 green teeth, just extruded from the cleft of the calyx.

Upper dry ^{anterior} chaparral rocky slopes.

✓ No. 18,756a. *Bastillea foliolosa* H. & A.
with 18,756!!

✓ No. 18,757. *Clematis lasiantha* Nutt.

Climbing over bushes on nr. slopes; frequent.

✓ No. 18,758. *Solanum*

Stems spreading or diffuse, making a circular plant. Cor. blue.

✓ No. 18,759. *Festuca Grayi* (Abrams) Piper
(det. B. Crompton - 7/77)

This grass on sheltered banks.

✓ No. 18,760. *Scrophularia californica*
Cham. Frequent on brushy slopes. See p. 288.

summit of ridge Vaca Mts.
at head of Weldon Cañon, 2650 ft.

✓ No. 18,761. *Convolvulus*

Stems trailing, many. Cor. white.

✓ No. 18,762. *Clematis lasiantha* Nutt.

See p. 290.

✓ No. 18,763. *Ribes* ^{victoriae Greene} ~~gracilius~~ *

Near summit, e. slope.

✓ No. 18,764. *Oenothera Epilobium*

Dwarfs. Summit, ridge,
open ground.

✓ No. 18,765. *Trifolium*

Summit, ridge, open ground.

✓ No. 18,766. *Lotus hemistratus* Greene

Summit, ridge, open ground.

✓ No. 18,767. *Astragalus*

Summit, open ridge.

✓ No. 18,768. *Trifolium microcephalum* Pursh

Summit, open ridge.

✓ No. 18,769. *Lupinus bicolor* Lindl.

Open ridge, summit.

* The calyx-lobes are never reflexed
so far as I notice.

Midway of
Cañon, 1000 to
1500 ft.

May 11, 1938. Solano Co.

✓ No. 18,770. *Wyethia helenioides* (DC.) Nutt.

See p. 289. Open ridge, summit.

✓ No. 18,771. *Erysimum*

See p. 293, ante.

✓ No. 18,772. *Poa scabrella* (Thurb.) Benth.
ex Vasey
(det. B. Crampton 2/77)

This grass at summit, in a

swale.

No. 18,773. *Castilleja*

Open summit. See p. 291.

✓ No. 18,774.

Summit. Hemizoid plant of open slope.

✓ No. 18,775. *Sanicula*

Open slope, summit.

✓ No. 18,776. *Whipplea modesta* Torr.

Dry chaparral w. slope near summit.

✓ No. 18,777. *Lupinus*

See p. 292, ante.

✓ No. 18,778. *Colochortus* ^{amabilis Purdy} ~~pulegioides~~

See p. 294.

✓ No. 18,779. *Psilocarphus tenellus* Nutt. var. *tenellus*

Flat. This involid near mouth of cañon.

- no. 18,780. *Wyethia angustifolia* (DC.) Nutt.
Hill slopes on edge of
Vaca Valley floor.

Napa Wye, May 15, 1938.

Field north, $\frac{1}{2}$ mile. This is
whitened over considerable areas
with *Brodiaea*

(no. 18,784) and many other
spring flowering plants. It is
luxuriant with spring annuals
of many kinds as if it
were mid-April; and all the
surrounding hills are still green.

- no. 18,781. *Orthocarpus*
no. 18,782. *Bellardia trixago* All.
no. 18,782 a *Dichelostemma pulchellum*
Stammodia lanceolata pairs,
↑ composed of
involute so as to be trough-shaped
a bit, nearly twice as long as the
anthers, cleft $\frac{4}{5}$ down to peri-

anther-segment. This is fairly
frequent in the field.

- no. 18,783. *Vicia*
Flowers in pairs, crimson!
turning dark purple in drying.
Common!

no. 18,784. *Fritilecia hyacinthina*
~~*Brodiaea*~~

See note p. 302.

no. 18,785. *Lupinus*

no. 18,786. *Orthocarpus attenuatus*
Gray.

Hovell Mtn., St. Helena Sanitarium,
May 18, 1938.

- no. 18,787. *Bromus Laevipes* Shear
(det. B. Crampton - 7/77)
This grass in opens in the woods
behind the Sanitarium, on top the little
hill. In loose clusters.
no. 18,788. *Poa scabrella* (Thurb.) Benth. ex
Vasey
(det. B. Crampton - 7/77)
This grass with 18,787.
Loose clusters.

No. 18,789. *Koeleria cristata* (L.) Pers.
(det. B. Crampton - 7/22)

This grass in loose clusters,
or better loose stools. With 18,787.

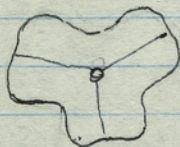
No. 18,790. *Geanotus parryi* Trell.

With 18,787

No. 18,791. *Allium*

Pers. white, the segments with a
pink tinge in center above middle, not
sharply defined. Filaments subulate.

Ovary 3-lobed, so:



The lines radiating from style base to
apex of each lobe do not represent per-
tition walls in the ovary! The partition
walls are between the lobes; that is
each lobe represents a cell!

No. 18,792.

This composite is ex-

tremely inconspicuous in the grass
on a somewhat sterile flat.

No. 18,793. *Lotus subinnatus* Lag.

No. 18,794. *Madia exigua* (Sm.) Gray

This madoid plant on a
somewhat sterile flat; wooded
openly.

No. 18,795. *Collinsia bicolor* Bth.
Open woods.

No. 18,796. *Colochortis* ^{*amabilis* Purdy} ~~*fuscescens*~~

Petals with few hairs.

processes above the gland; or almost
none; mainly at sides, and few.

Less than in *Vacc. Mts.* plant
(cf. no. 18,778) which has few.

No. 18,797. *Phacelia imbricata* Greene.

Stems several from a woody
base, so woody that it would be
called "a shrub", this plant, by those

306

Howell Mtn., slope above St. Helena
Sanitarium, May 18, 1938who extend the term shrub to any plant
having in the least any woody tissue.no. 18,798. *Agoseris heterophylla*

Open flats

no. 18,799. *Dichelostemma pulchellum*Per. lavender, not purple
as in no. 18,782. Anthers greenish,
 $\frac{2}{3}$ as long as staminodia.Staminodes cleft $\frac{2}{3}$ way to
point of attachment to per.,
lanceolate, a little revolute-edged,
(the halves) divergent. The margins of the
staminode-segments are marked
by undulate, especially at the
middle. Open woods.no. 18,800. *Delphinium variegatum* T.+G.Cor.: upper petals whitish;
lower petals and calyx deep
purple. Open woods.no. 18,801. *Aira elegans* Willd. ex Camdin

This grass in sterile soil.

Howell Mtn., slope above St. Helena
Sanitarium, May 20, 1938.

307

no. 18,802. *Stipa lepida* Hitchc.

(Det. B. Camp - 7/17)

This grass on the open slope
above the vineyards of John Ballentine.no. 18,803. *Trifolium microcephalum*

Pursh.

With 18,802.

no. 18,804. *Helianthemum scopar-*
ium Cor. yellow, small.

With 18,802.

no. 18,805. *Trifolium microdon* L. + A.

With 18,802.

no. 18,806. *Filago*

With 18,802.

no. 18,807. *Filago*no. 18,807a. *Whipplea modesta* With 18,802.

In canon above Ballentine ranch.

no. 18,808. *Koeleria cristata* (L.) Pers.

(Det. B. Camp - 7/17)

This grass on open slope.
With 18,802.

Pope Valley, May 22, 1938

Drove today to Pope Valley with
Milton Miller and family. Had picnic
lunch under a great oak. Wenton to Snell Valley. See nos.
18,809 to 18,838. [James Creek & Lime
Creek !!]

(James Creek Canon, Butte Canon and

"No. 18,809. *Clarkia concinna*

Rocky slopes near bushes.

"No. 18,810. *Festuca reflexa* Buckl.

(det. B. Crampton - 7/77)

This grass on rocky slope,
open brushy hillside."No. 18,811. *Elymus glaucus* Buckl.

(det. B. Crampton - 7/77)

This grass forms heavy
stools in cañon bottoms."No. 18,812. *Cryptantha cuspidata*

Greene. Loam soil on hillslopes

"No. 18,813. *Melica torreyana* Scribn.

(det. B. Crampton - 7/77)

This grass forms stout
stools on loamy rocky hillslopes"No. 18,814. *Bromus mollis* L.

(det. B. Crampton - 7/77)

This grass, with 18,813,
seemed rare. See only 3 indi-
viduals."No. 18,815. *Cheilanthes siligiosa* MaxonThis fern grows in a
rock outcrop under the margin
of rock-blocks or fissures."No. 18,816. *Allium*

On serpentine rock ledges.

"No. 18,817. *Arctostaphylos*This shrub is not nearly
white-leaved enough for *A.**viscida*, but its berries are
extremely sticky and cling toone's fingers decidedly. On first
standing by the bush I did not suspect it
to be *A. viscida*. (at)"No. 18,818. *Streptanthus*

Loamy-rocky hillside.

"No. 18,819. *Melica californica* Scribn.

(det. B. Crampton - 7/77)

This grass grows in the
cañon bottom."No. 18,820. *Beaumontia* ^{parryi} ~~Trud.~~~~rimus~~ Bth.This forms scattered but
marked colonies
here and there on lower slopes
of the cañons. Here it is associated
with *Adenostoma fasciculatum*!

In the Sierra Nevada, where it occurs in the foothills, on the lower margins of its altitudinal range, it is found with *Adenostoma fasciculatum* occasionally as in Pleasant Valley, Eldorado County, if I remember rightly.

Adenostoma fasciculatum

Through all this region between the Napa Range and the inner North Coast Range, chamise is an important constituent of the brush cover. Over large areas the association is chamisal and essentially pure. On the inner North Coast Range this is notably true. Here in James Creek Cañon we find it in association with *Ceanothus jepsonii* and *C.*

integrifolius. The essential fact is that *Adenostoma fasciculatum* grows under a wide range of conditions as to rainfall. There are places where it is found on the coast line, as on the Mendocino coast, and I think near the Mendocino and Humboldt coast, where the rainfall averages 30 to 40 inches. Even in the Vaca Mountains of the inner Coast Range the rainfall this last season was in the neighborhood of 50 inches in Gates Cañon acc. to James ("Jim") Miller. But the associated species are very different there from the associated species of the coast; and different too from the associated species at this spot in James Creek. For example there is no

Ceanothus integerrimus in the Vaca Mountains. The absence of that species is perhaps to be explained by a rainfall average too low for it. Its absence from the Vaca Mts., however, tends to weaken my hypothesis that *Pinus ponderosa* once occupied the Vaca Mountain. *Ceanothus cuneatus* is a common associate of *Adenostoma fasciculatum* in the Vaca Mts., not everywhere but frequently so. I do not notice it here in this cañon. The critical test for *Adenostoma fasciculatum* is not rainfall nor temperature, for it is toler^{ant} of a wide range under both these factors, but soil and site, that is it demands perfect drainage. Consequently *Chamae* is commonly found on steep

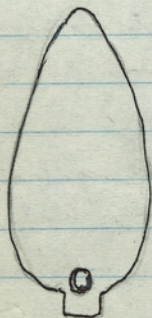
slopes and seldom on flats, in some regions not less frequently, or at all on flats. *Chamae* grows on the west side of the San Joaquin Valley in the San Carlos Range where the rainfall for years at a time may be only 3 to 7 inches.

No. 18, 821. ^{*Dudleya*} *Cotyledon*

Cor. a sort of saffron-yellow with some brown in it; reddish-brown-yellow is an outward phrase but perhaps expresses it. On a rock pile or outcrop of ledges. Cor. (when in full anthesis) with its segments barely spreading enough to be cylindric; at first the corollas are distinctly contracted upward; this may be their normal state.

No. 18,822. *Sidalcea diploscypha* Gray
Grassy field, along borders of
a shallow surface run or stream.
It now dry. Valley flat.

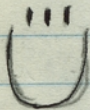
No. 18,823. *Zygadenus*
Moist banks and bor-
ders of a rivulet
of running water.



Perianth-segment.

Per.-segments
small; the
gland yellow.

Per. white.



Gland on perianth-
segments.

The gland is a very shallow
pit or depression but with a distinct
border all around except on the upper
raised side. The three dots above represent
diagrammatically the nerves of the

per.-segment.

No. 18,824. *Arenaria douglasii* Fenzl.

Stamens 10, styles 3. Pet-
als ovate, white. Gravelly hillslope.

No. 18,825. *Cryptantha hispida*
Greene. Sterile hillslopes

No. 18,826. *Logophylla ramosissima*
Nutt. Rays yellow. Rocky
hillslope.

No. 18,827. *Eriophyllum*
Common.

Rocky hillslope.

No. 18,828. *Madia exigua* (Sm.) Gray
Rocky hillslope. Modest.

No. 18,829. *Arctostaphylos viscidula*
Parr. The shrubs are now
showing their new shoots. The
leaves on the shoots of the season
are ^{light} green; on those of the wood of
last year and before white!!

No. 18,830. *Microseris linearifolia*
Rocky slopes and cliffs.

No. 18,831. *Silene californica* Durand
Petals crimson, flabelliform - orbicular, slashed lacinately into narrow segments about half-way. Loom flat.

No. 18,832. *Thermopsis macrophylla* H. & A. The specimen represents the entire stem down to the ground save that three branches have been cut off from the middle. The stem is not leafy below - only scaly!! Corolla yellow. Brushy slope; also on an open spot on flat.

Banner broad, notched at apex, its center with black dots!! Petals ^(sprinkled) equal or subequal. Upper calyx-lip shallowly notched, erect. Lower lip of 3 ovate lobes, slightly spreading. Stamens 10, distinct. Corolla canary yellow.

No. 18,833. *Euphorbia*
Brushy flat.

No. 18,834. *Galium andrewsii*
Moist flat, under bushes, forming a colony and covering the ground with a rather dense moss-like "mat."

Pope Valley, Napa Co., May 22,
1938.

No. 18,835. *Senecio*

Marking clumps in the gravelly rocky flood-bed of the creek. Stems few or several, strictly erect, from the branched perennial root-crown. Rays yellow, 6, 8, 7, 8, 8, 8, 7, 8.

No. 18,836. *Senecio*

Seedling rosettes, with the preceding no. These "rosettes" are 2 years old at least, possibly 3. Cont.
p. 319.

no. 18, 837. *Senecio* ^{integerrimus var. major (Gray) Cronq.}
 Flat on the plateau in open coniferous and broad-leaved woods. Heads cylindric,*

no. 18, 838. *Festuca californica* Vasey. This grass grows in very heavy stools and forms erect grassy plants of great beauty standing 4 to 5 feet high. There is a considerable colony at this spot. The four folders I took from only a small part of one stool. See p. 326; also p. 320.

* but constricted at the middle!
 - at summit of involucre. The stems, typically, are solitary and unbranched below the infl., that is one stem only from the very small root-crown.

- on our way back from Small Valley (cf. pp. 307 and 314) passed again through Pope Valley. It is a most delightful valley - the great valley oaks scattered over its floor so that it is much as it was in early days. Indeed all Californian valleys known to me as a child were of that type.

- Cont. *Senecio* no. 18, 836. Before the reproductive shoots arise, the "seedlings" establish several dwarf leafy axes on the main axis, that is, several rosettes arise, probably not before the third year. Flowering shoots would not arise, then, before the fourth year. I think this may be regarded as the minimum preparation in years before flowering. It were better to speak of "juvenile" plants or rosettes rather than "seedling" plants.

Howell Mtn., May 22, 1938.

- *Festuca californica*, no. 18,838.

Lower glume the shorter; ^{Lemna} ~~palat~~ ^{of Lemna} ~~sac~~ ^{of Lemna} ~~for~~ ^{of Lemna} ~~any~~; terminal floret sterile. ^{Lemna} ~~Lemna~~ with ^{of Lemna} ~~markedly~~ ^{of Lemna} ~~involute-membranous~~ ^{of Lemna} ~~margins~~ ^{of Lemna} ~~Palat~~ ^{of Lemna} ~~obscurely~~ ^{of Lemna} ~~5-nerved~~ ^{of Lemna} ~~or 7-nerved~~. See p. 318.

Howell Mtn., Napa Range,
May 24, 1938.

Drove from Sanitarium to Four Corners, turned left on road to White Cottages. After getting around the corner of the hill on to the plateau, botanized in the open woods: nos. 18,840 to 18,847.

Cont. p. 324.

Howell Mtn., May 24, 1938.

(plateau n. of Four Corners), c. 2500 ft.

No. 18,839. *Castilleja*

Stems arising from a very loose or broad root-crown, widely spreading or ascending, simple! or with one branch! Spikes somewhat loose. Calyx-segments (or halves) very shortly cleft, crimson, the corolla well-exserted (almost twice as long), the lower lip well exserted from cleft on lower side of calyx. Style conspicuously exserted from galea; galea green, its margin crimson. ^{membr-}_{nous}

On rocky outcrop, Four Corners.

No. 18,840. *Wyethia glabra* Gray.

Leaves erect, that is the basal or "radical" leaves. Flowering stems erect, leafy well up toward the head. Leaves

glandular-sticky.

"no. 18,841. *Convolvulus malacophyllus* Greene; forming a colony on a slope on the plateau.
↑ gentles

"no. 18,842. *Wyethia angustifolia* Nutt. Leaves forming a rosette on the root-crown, spreading or ascending a little; the flowering stems do not arise from the center of the rosette, or from the terminal axis or bud of the root-crown. They arise from the side of the axis or root-crown, from a bud in the leaf of the previous season; that is from a lateral winter bud. Rays 16, one count.
↑ axil of a

"no. 18,843. *Helianthella californica* Gray.

"no. 18,844. *Poa scabrella* (Thurb) Benth. ex Vasey
(det. B. Crampton, 7/77)
This grass in small stools.
↑ open woody slopes.

"no. 18,845. *Koeleria cristata* (L.) Pers.
(det. B. Crampton, 7/77)
This grass light or moderately heavy stools. Openly woody slopes

- *Wyethia angustifolia* no. 18,842.
Bracts of the receptacle narrow, minutely hispidulose at the acute apex, - is a better statement than in Book (Mon. p. 1080).

"no. 18,846. *Wyethia angustifolia*
x *W. glabra* Rays 14 in one count.

"no. 18,847. *Wyethia angustifolia*
(DC.) Nutt. Similar to no. 18,842

but leaves undulate-margined or serrate. Disk: pappus, scales 2, one long, one short.
1 paleae or

— Cont. from bottom p. 320. At this point I find an area of 15 acres or so, cleared years ago and planted to grapes, reverting to the wild. *Arctostaphylos manzanita* has come in most abundantly — now 3 to 5 feet high. I climb up the hill easterly a few hundred yards further on, to a plateau, where I find an ^{abandoned} orchard (apple and plums) being swallowed by the native growth, *Pinus ponderosa*, *Arctostaphylos manzanita*, *Barb. charis filularis*, *Camethus foliosus*, the two latter few. This area must have had soil on it in the beginning,

but one sees now nothing but gravel and rocks c. 1500 ft.

At the bend of the "hair-pin" in the road, below Four Corners, I collect:
No. 18,848. *Dichelostemma pulchellum*
~~*brodiaea*~~

Under bush; most luxuriant, 5 ft. high, with 4 leaves 3½ ft. long.

No. 18,849. *Bromus carinatus* H. & A.
(Det. B. Crampton, 7/77)

This grass in a moderately heavy stool.

No. 18,850. *Wyethia glabra*
Gray

No. 18,851. *Elymus glaucus* Buckl.
(Det. B. Crampton, 7/77)

This grass grows in moderately heavy stools.

No. 18,852. *Nadia sativa* Molina

No. 18,853. *Hypochaeris glabra*

No. 18,854. *Convolvulus luteolus*
Gray. Cor. white

- *Festuca Californica* Vasey. cf. p. 318.
At the point where I botanized on
the road to White Cottages (see note
bottom p. 320) I went up the
swale in the hills and on the
border of the clearing (cf. p. 324)
I find a fine colony of *Festuca*
californica. The plants are very
(no. 18,838). vigorous. I note stools $\frac{1}{2}$ to $1\frac{1}{2}$
feet thick at base. Some plants
are so large that with the flare
of ^{last year's} * reflexed leaves at base they
are 3 to 4 feet through at the
ground!

No. 18,854a. *Eriophyllum*
with 18,848.

* Doubtless several years of old leaves
are part of that dense skirt which
rests on the ground.

- Went today to head of "hairpin"
switchbacks on road to Four Corners,
parked car, and walked over old
wagon road to Bell Cañon. There is
a small vale in the cañon, with
two abandoned and weather-
wrecked cottages on edge of it.
On the east ^{side} of the vale a broad
rocky ledge comes down from
Howell Mountain southeasterly. Fire
has been over the slope - perhaps
two years ago. On the ledge two
species have responded to the
change in conditions brought
about by fire, *Convolvulus* no.
(no. 18,862) and *Eriophyllum*
(no. 18,859). The ledge for one-
eighth mile up the steep slope
is whitened by the morning-glory.
Although its stems are slender
and its foliage scanty becomes

of the small scattered leaves yet the growth is so luxuriant as to drape the blackened fire-killed shrubs with a tangle of stems and flowers. The *Eriophyllum* is likewise abundant, making a broad band of gold which extends up the mountain along the outcrop of rocks but also spreading out over the slope on favorable spots.

"No. 18,855. *Lotus subpinnatus* Lag.

Sterile soil under oaks, the only species occupying the spot. Mountain side outside Bell Cañon.

"No. 18,856. *Soliva sessilis*

Barren ground.

"No. 18,857. *Briza minor* L.

(det. B. Crampton, 7/27)

Moist under on road into Bell Cañon.

"No. 18,858. *Lathyrus*

Climbing 4 to 5 feet high on shrubs. Note that the racemes of pods are about 2 to 3 feet back of the top, that is the terminal one to two feet consists only of foliage. It would seem that after racemes of flowers are established the plant develops a terminal foliage area to provide material for fruit production and doubtless as a reserve in its root-crown against another year. Open bushy hillslope outside Bell Cañon.

"No. 18,859. *Eriophyllum lanatum*

See habitat note on p. 322.

"No. 18,859a. *Pickeringia montana*

"No. 18,860. *Hypericum concinnum*
"Fire burn" slope.

- "No. 18,861. *Cryptantha intermedia*
Greene. Abundant on "burns".
- "No. 18,862. *Convolvulus purpuratus*
Greene var.

Habitat note, see p. 327 ante.

- "No. 18,863. *Helianthella californica*
Loamy, rocky hillslopes

- "No. 18,864. *Silene antirrhina* L.

With preceding.

- "No. 18,865. *Malacothrix clelandii*

Heads in anthesis cylindrical;
ligules canary-yellow.

Loamy-rocky hillslopes.

- "No. 18,866 *Gastridium ventricum* (Coville) Schinz.
(Det. B. Cronquist, 7/77) Thell.

This grass with preceding.

- "No. 18,867. *Plagiobothrys tenellus*

Gray

With preced.

- "No. 18,868. *Cryptantha microstachya*

(Gray) Greene. With preced.

- "No. 18,869.

Noted only a single indi-

vidual of this cichoriad.

- "No. 18,870. *Bromus mollis* L.
(Det. B. Cronquist, 7/77)

That in the vale of
Bell Cañon.

Drove from the Sanitarium down the
east side road of Napa Valley, between
the mouth of Conn Creek (that is
where it reaches valley floor of Napa
Valley) and Stag's Leap Cañon, the
road runs along on the lower slope of
the foothills. Along the lower un-
wooded slope, arising now out of
the luxuriant but dead grass, are
millions of *Galochortus luteus*,
in places yellowing the fields
and slopes. Also in the low fields
(opposite, that is, e. of Rutherford),
are *Brodiaea hyacinthina*, actu-
ally whitening the fields. Never
before, I think, have I seen it
so abundant (no. 18,871); all
the way down the east side

to Napa.

No. 18,871. * *Trifolium hyacinthinum*
~~*Brachypodium*~~

See habitat note p. 331.

No. 18,872. *Downingia*

About 3 mi. s. of Yount

School. Lower lip spreading horizontally, its lateral lobes essentially at right angles with the middle lobe. Cor. lavender, the flabelliform yellow spot of lower lip set in a white field. Lobes of upper lip recurving, almost plane with the lower lip, the sinuses between the lips not cut appreciably below platform of lower lip.

* About 4 or 5 mi. n. of Yount School.

No. 18,873. *Melica torreyana* Scribn.
(Det. B. Crampton, 7/77) ^{Solano Co.} This grass on brushy cañon side.

No. 18,874. *Melica californica* Scribn.
(Det. B. Crampton, 7/77) This grass with preceding.

No. 18,875. *Stachys rigida* ssp. *quercetorum*
growing in brush and becoming tall.

No. 18,876. *Bromus laevipes* Shear
(Det. B. Crampton, 7/77) This grass forms light stools on brushy slopes.

No. 18,877. *Lupinus*
Large colony on north slope beneath young wood of *Umbellularia californica* and *Quercus wislizenii*. Corolla lavender, soon sordid.

No. 18,878. *Gastridium ventricosum* (Coville)
(Det. B. Crampton, 7/77) ^{Schlegel & Hall} This grass on brushy slope.

No. 18,879. *Melica torreyana* Scribn.
(Det. B. Crampton, 7/77) Grass, with preceding.

* See list of species, p. 369.

- "No. 18,880. ^{=Triteleia} *Brodiaea laxa*
with small flowers;

growing in woods well up; per-
fale lavender. Quite diff. in
appearance from the robust
plant with large flowers
growing in heavy adobe in
the foothills. But the details
of stamens, pistil, perianth
appeared the same.

- "No. 18,881. *Eriophyllum conferti-
florum*

This is common, making
spots of color in the lower
cañon and extending to the "jaws"
of the outer cañon, but not
outside of that as I notice.
It also extends to summit in
Weldon Cañon. By "jaws" I
mean where the outer or easterly
ridges make a pair of ridges,

May 29, 1938.

one for each side of the cañon.

- "No. 18,882. *Lupinus*

This grows in the "jaws"
of the cañon (see p. 334). After
flowering the erect racemes
spread, become horizontal in
fruit, with pods all turned to
upper side so as to make a
strongly recurved fruiting
raceme. All this is very marked
as observed in the field.

Little Oak, Vacaville, June 6, 1938

- "No. 18,883.

Grass.

- "No. 18,884. *Phacelia imbricata* Greene

Benicia Hills. June 6, '38.

= *P. magellanica* Cov. var. *calycosa* (Gray) Jepson.

- *Lithocarpus densiflora*. Dr. Will-
reports that in going through dense
Tanoak in Mendocino Co., the fuzzy dust
on the leaves causes him much sneezing.

336

Butte Cañon, Napa Co.

Left Berkeley at 11 o'clock with Dr. R. F. Hovav in his car. On east slope of Howell Mt. there is a rather dense woodland of *Quercus douglasii*, *Pinus sabiniana*, *Quercus Kelloggii*, *Acer macrophyllum*. All these species are also found in the Vaca Mts., though more segregated there. There is also the important difference that *Pinus* (~~*Quercus*~~ *Nuttallii*, *Quercus garryana* *fendersoni*) and *Pseudotsuga taxifolia* ^{*Lithocarpus densiflora*} are in association with the above species on Howell Mtn. and are not in the Vaca Mts.

We run through the delightfully wild Pope Valley ^(cf. p. 346) and finally reach Butte Cañon. We travel so far eastward on the Snell Valley road as the second gate on the Paul Lombardi ranch. It is obvious, then, this road is no
* cf. vol. 57, p. 68, ante.

June 8, 1938.

~~Butte Creek, South Fork, N. of Pope Valley~~ 337
longer a road to Knoxville and we turn back, reach Butte Cañon again and stop to botanize at several places in it. (cf. p. 368). No. 18,885 to 18,896 collected on the way in to Snell Valley. *

Chaparral slopes, rocky terrain

No. 18,886. *Lomatium*

Slope broken, slopes.

- *Rhodoclelea occidentalis*. ^{rocky} see p. 368.No. 18,887. *Lersingia*

Rocky slopes, disintegrating.

No. 18,888. *Hesperolinon bicarpellatum* (Sharsm.)

H. K. Sharsm. Cor. yellow. Petals with a pair of teeth at base, minute, lateral with 18,888.

No. 18,889. *Clarkia* ~~*gustata*~~Petals, crimson-pink, with a deep, ^{light} crimson spot at base. ^{bright} with 18,889.No. 18,890. *Sidalcea* *culycosa* M. E. Jones.

Small pink fls. with 18,890.

* that is, in South Fork Butte Cañon

At the point where we stop there is an excellent view up the slope of the hill on the easterly side of the cañon. I notice in particular a northwest slope rather densely chaparral covered, better say thickly, since ^{there are} some open spaces. Mainly two species: *Quercus durata* and *Umbellularia californica*, the former occupying about $\frac{3}{5}$ of the area, 3 to 4 ft. h., the latter $\frac{2}{5}$ of area, 4 to 6 feet high. *Quercus durata* is often a dominant tall through this region.

"No. 18,891. *Bromus laevipes* Shear
(Det. Beecher Crampton, 8/77)

A common grass in the open chaparral rocky slopes.

"No. 18,892. *Podisma triticea*
Pers. white; very yellow.

This is common all through the cañon, in springy spots, wet

June 8, 1938.

meadows, and especially along the living stream in the cañon bottom in its rocky border and gravel bars. It is quite splendid to see it growing in rocky crevices on the banks of the stream, fine vigorous tall plants.

"No. 18,893. *Hordeum brachyantherum* Nevski
(Det. Beecher Crampton, 8/77)

This grass forms small but distinct pure colonies on fairly good soil in the rocky cañon.

"No. 18,894. *Festuca rubra* L.
(Det. Beecher Crampton, 8/77)

This grass with 18,893

"No. 18,895 *Elymus glaucus* Beckl.
(Det. B. Crampton, 8/77)

This grass forms thin or small stools. with 18,893.

"No. 18,896 *Koeleria cristata* (L.) Pers.
(Det. Beecher Crampton, 8/77)

This grass in small but dense colonies, with 18,893
↑ pure

[Nos. 18,885 to 18,896 were collected in south fork Butte Cañon].

No. 18,897. *Brodiaea stricta* (A. Gray) ^{Gray}
Dry ground, Snell Valley.

No. 18,898. *Pogogyne douglasii* ^{open}
Playa, Snell Valley;

No. 18,899. *Eryngium*
Playa, Snell Valley.

No. 18,900. *Delphinium eliginosum* ^{Curran}
Stream borders, wet gravel

bottoms, wet flats. A great deal
of it in Butte Cañon, forming
gay colonies here and there, or
^{in little groups of 3 or 4}
bordering the running water. It
is a true Water Larkspur since
it must have its feet in water.

It is, by its foliage, the most
distinct of all our larkspurs.

No. 18,901. *Streptanthus*
Rocky walls, Butte Cañon

No. 18,902. *Salix breweri*
This makes dense bushes,
mostly 2 to 4 feet high, which

more than any other species fills
the "Bottom" of Butte Cañon.

No. 18,903. *Scutellaria angustifolia* ^{Pl. var.}
astinae ~~Eastw.~~ ^{Eastw.} cor. purple. Tip of lip not
turned up or inflexed. Butte Cañon

No. 18,904. *Allium*

Rocky cañon Bottom,
Butte Cañon

Loconomi Valley.

- We pass out of Butte Cañon into a
fine valley (*Quercus lobata* type), then
then hills to the valley* about Mid-
dletown, then to Lower Lake; on the
way noting the fine valley about
the Putah Creek bridge. ^{Teirulan}

The night we stop in a motor-
sabin place at Lower Lake.

Next morning, June 10, we drive
north, cross the Cache Creek
bridge and in about 1/2 mile
stop to collect on a "burn".

* ^{Thill} Callayomi Valley
No!! = Coyote Valley. See 55:171.

— on the hill "Burn", the first signal to stop are the tall yellow inflorescences of *Dicentra chrysantha*; but there are other prominent plants including the tall spikes of *Antirrhinum virga*. Never before have I seen this abundant as here on this low hill top. There are probably fifty plants on the ten-acre "Burn", possibly many more. Each plant consists of 5 to 30 erect unbranched stems 4 to 6 $\frac{1}{4}$ feet high which arise from the branched crown of a heavy tap-root. The stems are simple, that is unbranched at the beginning, but after the raceme is well developed and is beginning to develop young capsules at the lower part, with buds still coming at the summit and flowers in

anthesis in the middle — at this stage many stems begin to develop a zone of branches from the leaf axils at about the middle of the stem. These show embryonic racemes at tip at this stage. Evidently when the terminal raceme has completed anthesis, the secondary racemes, a half-dozen or so, develop from the middle of the plant and furnish a later flowering. See no. 18,912.

The associated species here are: *Adenostoma fasciculatum*; *Eriodictyon californicum*; *Pinus sabiniana*; *Quercus wislizenii*; *Chlorogalum pomeridianum*; *Hypericum concinnum*. Also the following numbers collected: No. 18,905 *Cirsium*

Noted in many

localities or rather stations - but
on this trip the individuals always
solitary. It is a species in
good soil pockets on chaparral
slopes or flats.

"No. 18, 906. *Sphacel* ^{= *Lepechinia*} *calycina* Bth.

One bush, only, noted

"No. 18, 907. *Navarretia mellita* Greene.

Corolla very small (? 1 line
long, $\frac{1}{2}$ line wide limb), whitish
or pale lavender. On ashy "burn"

"No. 18, 908. *Hemizygia* *Madia*
exigua (Sm.) Gray. ashy "burn".

"No. 18, 909. *Chorizanthe cleavelandi*
On sterile gravelly spots
on "burn".

"No. 18, 910. *Solanum xanti* Gray var.
glabrescens ^{Panish.} Tuncoid-bushy, the
flowers few, rather small.

"No. 18, 911. *Cryptantha muricata* (H.
& A.) Nels. & McBr. Growing tall and
(var. *jonesii* Jtn.)

slender in the open.

"No. 18, 912. *Antirrhinum virga* Gray.

Corolla at first white! with
a sodid much elevated palate, the
tube changing to light purple.
cf. notes of habit of plant on p. 342.
Cor. upper lip cleft shortly, its sides
narrowly reflexed, ridges transversely
on face below cleft. Lower lip with
elevated obcompressed palate, the
lobes of lower lip all reflexed
beneath or behind the palate and
their tips approximate. Upper pair
of stamens shorter than lower
pair, all filaments hairy, a little
flattened. Lower pair of anthers
maturing in advance of upper
pair. Sterile filament one line
long, with a vestigial rudiment of
anther.

No. 18,913. *Oicentra chrysanthia* Wats.
ashy brown.

Cont. from p. 336, Pope Valley

- *Arctostaphylos manzanita*
forms little colonies on low
hillsides rising from the floor of
Pope Valley; also on hillsides.
The moment man's cultivating
hand is withdrawn this
species marches promptly into
vineyards and orchards, re-
possessing its ancient domain.

- Near the junction of Butte
Creek and South Fork, about
1 1/2 miles ^{to} from the junction is
the ranch of J. L. Burdick,
the house near the road in
Butte Cañon.

- Itinerary from p. 336. See
page 68, vol. 57, ante.

We run along north shore of Clear
Lake. The views across the lake
are very beautiful. *Oicentra* occi-
dentalis is frequent along the
lake shore and over lower slopes,
east and west sides, of Bartlett
Mtn. Take road up Bartlett Mtn.,
leaving the highway between Lucerne
and Clear Lake Lodge. On the
easterly slope, after passing summit
some miles, we stop and collect:

No. 18,914. *Cissium*

Few rather widely spreading
branches (openly branched), 5
ft. h., very leafy below (on main
axis). Always solitary.

No. 18,915. *Streptanthus*

Gravel slide.

No. 18,916. *Salvia columbariae* Bk.

Gravel slide.

No. 18,917. *Mentzelia*

Gravel slide.

No. 18,918. *Eriogonum molestum* var.*davidsonii*

Per. pink. Gravel slide.

No. 18,919. *Arabis Breweri* Wats.

det R.C.B. 1968

Rocky cliff, in clefts

of rock.

No. 18,920. ~~*Echeveria*~~ *Audleya*

Saffron cor. Rocky cliff.

No. 18,921. *Erigeron petrophilus* Greene

Rocky cliff.

No. 18,922. *Phacelia imbricata* Greene.*P. magellanica* Cov. var. *calycosa* (Gray) Simpson.
Rocky cliff.No. 18,923. *Amsinckia intermedia* F. & M.

Gully, in good soil

No. 18,924. *Madia gracilis* (Smith) Reiche

Gully, in good soil.

No. 18,925. *Gilia capitata* Sims
ssp. *capitata*

Gully, in good soil.

No. 18,926. *Scutellaria californica* Gray.— *Chlorogalum pomeridianum*, on
Bartlett mtn. See p. 368.No. 18,927. *Scutellaria*Soil pockets in rocky
slope. Cor. white; lips equal.upper
liplower lip, with infolded
margin.Throat yellow inside
Upper pair stamens
slightly the longer,
their filaments
glabrous. Lower
pair filaments
slightly pubescent
belowNo. 18,928. *Stachys rigida* ssp. *quercetorum*

Hill.

Cor. dull white, its
lower lip strikingly variegated
with a linear-dotted purplepattern
No. 18,929. *Ceanothus integerrimus* H. & A.
var. *integerrimus*
Scarce.

^vno. 18,930.

This grass on the open
wooded flat.

No. 18,931.

Grass, with 18,930.

No. 18,932.

Grass, openly wooded flat.

No. 18,933. *Phacelia rathbuni* Gray. Prickly
bristles! Cor. dull white. Sandy flat, moist.

no. 18,934.

Grass, sparsely wooded flat.

no. 18,935. *Verbena* ^{*platystachys* var.} ~~*prostrata*~~. *septentrionalis* Moldenke. G. Br.

Loamy openly wooded flat.

no. 18, 936. *Lotus Purshianus* (Benth.)

Clem. & Clem. Open sandy flats.

No. 18,937. *Graphalium pelustre*
open sandy flat.

No. 18,938. *Navarretia divaricata*
(Torr.) ~~ssp.~~ ^{var.} *divin* Jepson & Bailey.
Sandy spots on the flt.

No. 18,939. *Heterocodon*

Sandy spots on flat. Common.

2300 ft. June 9, 1938.

no. 18,940. *Navarretia intertexta* Hook.
Sandy spots on flint.

No. 18,941. *Silene californica* Durand
Petals crimson. filicular [↑] openly
nerved flat.

No. 18,942.

This grass on alluvial open
flat.

No. 18,943. *Scutellaria californica* Gray
Openly wooded flat.

No. 18,944. *Bilocarphus tenellus* Nutt. var. *tenellus*

This graphaloid plant
infrequent on sandy flat.

no. 18,945. Galium

Open alluvial flat.

No. 18, 946. *Calyptridium quadri-*
petalum Wats. Sandy flat.

- We come down the east slope of Bartlett Mtn. (cf. pp. 348) to a little valley or flat along the creek (Bartlett Creek) at 2300 ft. It is openly

352

Bartlett Sprs., Lake Co.
June 9, 1938.

wooded with *Pinus ponderosa*,
Pinus sabiniana, *Quercus*
lobata, *Arctostaphylos man-*
zanita. *Quercus lobata* trees
stand within ten feet of *Pinus*
ponderosa trees!!

At this point we stop and
have our luncheon under the
oak trees. According to a
road-sign at our stopping
place, this spot is within $1\frac{1}{2}$
miles of Bartlett Sprs. Here
I collect nos. 18,930 to 18,946a.

No. 18,946a. *Gilia leptalea* (Gray) Greene
ssp. *pinnatisecta* Mason & A. Grant
Sandy flat.

- We pass Allen Sprs. and Hough
Sprs. and go down into Indian
Valley. On the ridge east is a
prominence, Mt. Baldy.

Indian Valley, nr. Lake Co.
c. 1600 ft. June 9, 1938
along Stanton Creek.

353

No. 18,947. *Eriogonum sphaerocephalum*
var. *sphaerocephalum*
Gravelly rocky gentle hill-

slope.

No. 18,948. *Brodiaea rosea* (Greene)
Nichols
Gravelly hillslope, highly min-
eralized soil. Open situation. *

No. 18,949. *Streptanthus*

Racemes secund. Rocky
hillslope. Open situation.

No. 18,950. *Senecio cleavelandi*

Stems simple, 33 in one
cluster from the root-crown. This
plant on flat opposite the *Brodiaea*
rosea locality. Northerly $\frac{1}{8}$ mile
are dense colonies on flat near
a ranch house. ^{the valley}

over the mts.
* Coming from the east (Bear
Valley) into Indian Valley, one passes
a farm house and turns south. In
about $\frac{1}{8}$ mile, on west side of road
is the B. *rosea* station in an open spot.

"No. 18,951. *Calycadenia pauciflora* Gray
Ray white, ^{green} Gravelly gentle hillslope.

"No. 18,952. *Calyptridium quadri-*
petalum Wats. Sandy bottom,
Stanton Creek.

"No. 18,953. *Mimulus layneae* Jepson.
Moist flat along
Stanton Creek.

"No. 18,954. *Rigopappus*
This slender composite on
a rocky flat. Stanton Creek.

"No. 18,954 a. *Antirrhinum cornutum* Bth. Crack "Bottom"
(up a cañon (Complexion Cañon))

We drive east over the very
considerable ridge between Indian
Valley, Lake Co. and Bear Valley,
Colusa Co. - the divide of the inner
North Coast Range. On the west slope,
at about 1900 ft. we stop by a
fine meadow and collect nos. 18,955
to 18,965.

c. 1900 ft., w. slope, June 9, 1938.

"No. 18,955. ^{Lake Co.} aff. *Agropyron trachocaulum* (Link) Malte
(Bth. Crampton, 7/37) This grass on dry hillside

"No. 18,956.

This grass, same station as
preceding no.

"No. 18,957. *Zygadenus*
Moist meadow.

"No. 18,958. *Penstemon heterophyllus*
Bth.

"No. 18,959. *Lagophylla ramosissima* Nutt.
This madioid plant on
dry gravelly flat.

"No. 18,960. *Brodiaea coronaria*
Dry flat.

"No. 18,961. *Hemizonella Madia*
exigua (Sm.) Gray Dry flat.

"No. 18,962. *Eriophyllum lanatum*
Dry hill slope.

"No. 18,963. *Scutellaria* ^{Austinae} *angustifolia*
Wet border of meadow, a
fine colony of it. (*S. austinae*
* cf. vol. 38, p. 26a. (Eastw.))

No. 18,964. *Orthocarpus*

Cor. white. Wet mdw.

No. 18,965. (*Hesperolinon*) *disjunctum*
H.K. Sharsm. ined.
(June, 1959) Dry gravelly flat.

- *Fraxinus dipetala* in common east of Indian Valley.
- *Acerus durata* in Indian Valley.
- We drive through Bear Valley to Leesville, and soon turn south then the east arm of Bear Valley and gradually ascend the range to the summit, where there is a fine view of the east slope ^{inner Coast Range} and its cañons, Blue Oak country reaching up to 1700 ft. - no chaparral or chamise. It is an impressive prospect ^{looking} down, on account of the abruptness of the slope. At the bottom we drive over the Sacramento plain to Williams and pass the night.

- Next morning, June 10, we drive north from Williams, breakfast at the county seat of Willows, go on north through Orland and stop to collect at a creek about 1 mile south of Sourgrass Creek, s. bound. of Tehama Co., where I collect 18,966 to 18,971; and go on to Coyote Creek (see p. 358). ^{then}

No. 18,966 - *Psilocarphus brevissimus* Nutt.
Baked dry playa or spring rain pool. Gnaphaloid plant forming a carpet on the pool bed.

No. 18,967. *Navarretia minima* Nutt. ~~leucoccephala~~
Bth. Central (initial) head close to ground, later heads on proliferous radiating branches. At this dead dry stage the plants form a thin carpet on bed of pools, ^{or inside} now sunbaked.

No. 18,968. *Eryngium*

Common in low swales

No. 18,969. *Navaretia tagetina* Greene

Low dry clay hills. Cor.

blue. Abundant.

No. 18,970. *Hemizonia fitchii* Gray

Low dry clay hills. The lowest
(earliest) leaves are pinnately
divided. These dense little balls of
leaves are storing resources for
the later development of the in-
florescences. not *N. corulaefolia*

No. 18,971. *Navaretia intertexta* Hook. ^{sp. nov.}

= *N. bournaniana* Eastw.

Low dry clay hills, abund.

Coyote Creek, 6 mi. s. of Red Bluff, June 10, 1938.

No. 18,972. *Carex*

Dense colony in "bottom"

of creek or slough.

No. 18,973. *Polypogon maritimus* Willd.
(det. Beecher Crampton, 8/77)

grass in "bottom"

- We have an excellent meal (mid. day) in
Fremont Restaurant, Red Bluff.

No. 18,974. *Mollugo verticillata* L.

Prostrate, sandy "bottom". Stems

3.

No. 18,975. *Antirrhinum cornutum*

Bth. Cor. blue. Creek bottom.
"sandy"

No. 18,976. *Boisdualia macrantha* Heller
Creek "bottom"

No. 18,977. *Boisdualia stricta* (A. Gray) Greene
Creek "bottom"

No. 18,978. *Douringia*
Wet banks of creek, the
roots fistulous-thickened!

No. 18,979. *Juncus oxymiris* Engelm.
Dense colony in "bottom".

No. 18,980. *Sclerocharis macrostachya*
with 18,979.

- After leaving Coyote Creek we drive
north to Red Bluff, n. of which 2 mi.
we turn off main highway northeasterly
then low hills to Jellys Ferry where we
cross Sacramento River by a public ferry.
About 2 mi. n. we stop and collect.

Jalley's Ferry (2 mi. N.)
 Sacramento River, 400 ft.
 Tehama Co. June 10, 1938.

"No. 18,981. *Navarretia viscidula* Bth.

Cor. maroon. Dry flat.

"No. 18,982. *Eriogonum sphaerocephalum*
 var. *sphaerocephalum*
 Gravelly Creek bottom.
 = *M. villosa* var. *sheltonii*

"No. 18,983. *Marandella villosa* Bth.
 var. *glabrella* Gray. With 18,982.

"No. 18,984. *Rhamnus* ^{*californica* Esch.} *fomentella* (H.)
 Creek "bottom" ^{ca. Wolf}

"No. 18,985. *Asclepias eriocarpa*
 Bth. Dry hills.

"No. 18,986. *Euphorbia*
 dry hills.

— *Cephalanthus occidentalis*. Jalley's Ferry.

— We wander around on east side of river, return west to Anderson to repair a tire at a garage; run south on highway to Orland and stop all night at Palmer Hotel. Next morning (June 11) we drive s. to Williams, turn west into Coast Range and on highway near Wilbur stop to collect.

Wilbur Sprs., 4 mi. ss. of on
 Bear Creek, ~~Sac.~~ Colusa Co. 361
 June 11, 1938.

"No. 18,987. *Madia nemynia* ^{*Clevelandii* Greene}
 dry hills.

"No. 18,988. *Linum californicum*
 Benth. Cor. white, large. Dry hillslopes. Cor. rotate!! (this is a point, as compared with other species). Anthers maroon! as terracotta! Petal claw: scale median, a "horn" or minute tooth on each side of claw.

"No. 18,989. *Sitanion jubatum* J.G. Smith
 (det. Beecher Crampton, 8/77)
 This grass in heavy clumps on hillside.

"No. 18,990. *Elymus triticoides* Buckl.
 (det. Beecher Crampton, 8/77)
 This grass in a dense pure colony in a flat, the stools arising from slender deep-seated offsets or stolons, so that when a single stool is taken up, it may look like an annual grass, because so easily broken off from connection below.

June 11, 1938.

No. 18,991. *Elymus glaucus* Buckl.

(det. Beecher Crampton, 8/27)

This grass has a bluish
cast to spikes. Dry flats.- *Asclepias mexicana* Cav.

- All this is very interesting
country. (cf p. 368) Bear Creek is here a
very considerable stream, a
tributary of Cache Creek (North
Fork). *Cercis occidentalis* on Cache Creek, N.
Fork). We pass over the divide to
North Fork Cache Creek; ^(fine *Asclepias cal.* in fl.) thence
to Lower Lake where we turn left
into the ^{old} Knoxville road. After
about five miles through Blue
Oak hills we climb sharply
upward and rise to a chamise-
covered ridge where there is
a "burn". On this I collect nos.

18,992 to 19,003 and 19,011-19,012.

This point is within about 3 mi.
of Raiff postoffice (westerly from Raiff).
Between the "burn" and the high part
(cont. p. 366)

c. 2300 ft: June 11, 1938 (Morgan Valley).

No. 18,992. *Clarkia*
*gustata*No. 18,993. *Mimulus bolanderi* Gray.

Rich flat, in "bottom"

No. 18,994. *Galeptidium quadri-*
petalum Wats. Rocky "burn".

No. 18,995. *Erythronium muricata*
Nels. & Mcbr. ^(var. *goneri* Steud.) Axis of stem grows
erectly to a height of 14 to 20
inches, in "open", without crowding,
and develops a terminal infl.;
Somewhat later, after terminal
cyme is established, the axis
below is "feathered" with short
branches which produce flowering
spikes; the "feathering" may be
open and light, or dense;
in either case producing a
narrow column. Gravelly hill-

top.

"No. 18,996. *Linum micranthum* Gray

Petals narrow! Gravelly "burn"

"No. 18,997. *Eriodictyon californicum*
Greene. Seedlings on "burn".

"No. 18,998. *Mentzelia*
on "burn".

"No. 18,999. *Oenothera*
Stems several from
base, spreading or ascending.

"No. 19,000. *Emmenanthe penduli-
flora* Dth. Gravelly "burn".

"No. 19,001. *Malacothrix clevelandii*
This cichoriad on a
gravelly "burn".

"No. 19,002. *Navaretia mellita*
Greene. Gravelly "burn".

"No. 19,003. *Gastroidium ventricosum* (Gouan) Schins.
(det. Beecher Crampton, 8/77) + Thell.
This grass in gully flat.

"No. 19,004. *Sphacelodes calycina*
Dth. In gully on mtn. side, near

school.
- Two more plants at this station; see next p.

"No. 19,005. *Fremontia* ~~californica~~ ^{napensis (Eastw.)}

R. Lloyd Dry mountain side.

"No. 19,006. *Hesperolinon* ~~linum~~ ^{disjunctum}

H.K. Thar. m. ined. (1959) Rocky slope, where
little other vegetation! Larva under-
mined while petals.

"No. 19,007. *Eriophyllum*
Rays 12. Rocky slope.

"No. 19,008. *Streptanthus hesperidis*
Jipson. Sterile rocky slope.

"No. 19,009. *Senecio*
Clay slopes.

"No. 19,010. *Orthocarpus*
Moist hillslope.

- *Asculus californica* (Spach) Nutt.

Reiff, Knoxville Ridge, ss. Lake Co.,
June 11, 1938.

"No. 19,011. *Lupinus*
Cor. yellow, aging reddish-brown.

Moist flat in gully.

"No. 19,012. *Festuca idahoensis* Elmer
(det. Beecher Crampton, 8/77)
This grass on dry bank in gully.

-Cont. from bottom p. 362.

of the Knoxville Ridge in Napa Co., there are two or three little valleys, all in Lake Co. There is a school easterly from Riff-^{Morgan Valley and Morgan Valley School.}

The high part or highest part, rather, of the Knoxville Ridge, in Napa Co. ^{cf. p. 368.} From it one drops down rapidly to the old mining village of Knoxville.

Thence we run down the cañon of Iticwa Creek, about 4 mi.

and stop for lunch in a little vale graced by Valley Oak trees, a small thicket of *Cornus glabrata* Bth. and *Rhus trilobata*, *Aesculus californica*.

On the east side of vale is a fringe of *Quercus wislizenii* at the base of the hill.

Above rises a fine high hill, Chamise-covered and all in

flower to the top, the whole great slope toned by the yellow of the Deer Weed*. This spot is far from habitation of man; there is the quiet which one finds only in such places - the quiet of a cañon on a still day, a quiet on which there is placed the seal of the soft note of the mourning dove.

Down this cañon we drive many miles to Suisun Valley and Berkeley. Berryessa Valley and thence to

-Cont from p. 359 at bottom. These low hills are enchanting. The Blue Oak (*Quercus douglasii* wood-land) has been little disturbed. There are some trees that are very large and some that simulate the Valley Oak in contour!

* *Lotus scoparius*

- *Chlorogalum pomeridianum* is on brushy slopes everywhere through the whole of eastern Lake Co. as seen on this trip.
- Cont. from p. 362. The land-owner along Bear Creek in this region is I. G. Zumwalt Co. acc. to a posted sign.
- Harrison Mine, 1 mi. n. from wagon road on top of Knoxville Ridge, Napa Co.
Quercus durata is a frequent shrub all through this high country (Knoxville Ridge) as also generally in eastern Lake Co.
 cf. p. 367.
- Cont. from p. 337. *Rhodocladia occidentalis* is abundant in both Butte Cañon and its South Fork. It is now (June 8.) nearly out of flower. Prof. E. Fritz tells me the azaleas at Pt. Arena is all pink-flowered.
- *Delphinium uliginosum*
 Knoxville Ridge.

There has just come in this morning by parcel post a fine box of azaleas, from the Providence Mts. collected by Mary Beal. Whole clusters of the inflorescences unite on their stalks have been sent; flowers in anthesis. This species is perhaps *A. ensariata*. The flowers are so high in air as seldom to be collected and least of all in connection with pods from the same locality.

Jules Cañon, cont. from p. 333.
Vaca mts.

At lunch place, a short distance above forks of cañon, I note the following:

<i>Quercus wislizenii</i> .	<i>Arenostoma fasciculatum</i> .
<i>Diplacus glutinosus</i> .	<i>Umbellularia californica</i> .
<i>Aesculus californica</i> .	<i>Rhamnus californica</i> .
<i>Populus fremontii</i> .	<i>Salvia spathacea</i> .
<i>Pinus sabiniana</i> .	<i>Clarkia concinna</i> .
<i>Fraxinus dipetala</i> .	(this is always
<i>Photinia arbutifolia</i> .	on steep slopes
<i>Vitis californica</i> .	on broken ground
<i>Baccharis pilularis</i> .	on land slides
<i>Eriodictyon californicum</i> .	in wooded country).

— William H. Crocker has recently died. He died without leaving any bequest to the California Academy of Sciences though he was President of the Board of Trustees for many years.

The Academy is in debt to the sum of about \$300,000? Poor judgment in putting up the new building or addition, the African wing, in 1931.

J. J. Howell just in to see us. He says that, though the Academy is poor, there are the advantages of being removed from politics which plays so unwholesome a part most everywhere else. — July 22, '38.

— Prof. Eugen Neuhaus, Dept. of Art, U. C., just in from Summit sta., Nevada Co. Says that a woods cruiser, employed about the

5 Ki Club house in planting trees, says: Juniper (*Juniperus occidentalis*) can be moved from a wild spot and planted elsewhere with the greatest ease without any precautions against drying out of roots or delay or drought or high temperatures. Only one condition must be met: in setting the tree, the side toward the sun must be kept toward the sun where it is originally.

sun in the same position. Neuhaus was inclined to brand this as a folk superstition, but I said: I will not speak on this *ex cathedra*; but certainly the peculiarities of conifers as to polarity are very remarkable. — July 27, '38.

— At the luncheon table at the Club today Prof. J. H. Hildebrand

told me that he saw in the Mt. Whitney region a *Bryanthus* (= *Phyllodoce*) different from the ordinary *Bryanthus breweri*. I suspect, from his description, it may be *B. amplexiformis*.

If so it would add a significant species to the Klamath area - Mt. Whitney list of species in common. - July 26, '38.

- Miss Lois Gwendolyn Hoyt, for some six years my clerk and typist, until about 1933, is just married to Homer Warner Marion. (July 30, 1938). She knew and loved Latin - and was extra useful on that account. - Aug. 2, 1938.

- Campus Oaks. A *Quercus agrifolia* tree near sw. entrance life Sciences Bldg. fell Feb. 8, '38. Windstorm; rotted through at

ground; nothing to hold it. One of the smaller trees.

- David Goddard, an undergraduate with me ten years ago, is here in Berkeley. He called several times, I invited him to luncheon several times, but we "missed fire". Finally we met on the campus. I took him up to my house on Masswood Road.

He expressed a desire for a copy of the Vandenberg portrait (photo print) of myself. I

gave him one with my name lettered on it and below the legend: "There's something lost behind the ranges". - The Explorer. Telescope Peak, Panamint Range looking towards the southern Sierra Nevada, May 13, 1917." Goddard took his Ph.D. here. He is now a Professor of Botany in Univ. of Rochester. - over - Aug. 10, 1938.

Cont. from p. 373. Goddard was delighted to have the portrait and expressed his great pleasure.

- Reed C. Rollins, now assistant to Prof. Fernald at Harvard, formerly at Washington State College, was brought by Dr. Lincoln Constance to call ^{Aug. 17.} today. I took them to luncheon at the Faculty Club. We talked of field work in Washington and California. Also of Fernald's progress on the revision of Gray's Manual; and of the non-support of the Gray Herbarium by Harvard University. Rollins has been in Washington state this summer and is returning to Cambridge via Texas. He was very complimentary to me and said it meant a great deal to meet a man

August, 1938

whose work he had used so much and admired so greatly. He was quite handsome in acknowledging his debt. Cf. a note to me by Lincoln Constance, Aug. 17, 1938. - [Aug. 20, 1938].

- Montezel ranch. See p. 495.
^{August 9.}

- Mr. & Mrs. A. F. Van Derventer of Del Norte County, who are drawing and collecting Del Norte plants, were my guests in my home, 11 Masswood, at the beginning of the week, Aug. 15-18.

no. 19,013. *Chrysopsis*

Cont. p. 376. Rays 11, 10, canary yellow. Summit of Sugar Loaf.
Aug. 23, 1938. Berkeley Hills.

no. 19,014. *Lactuca*

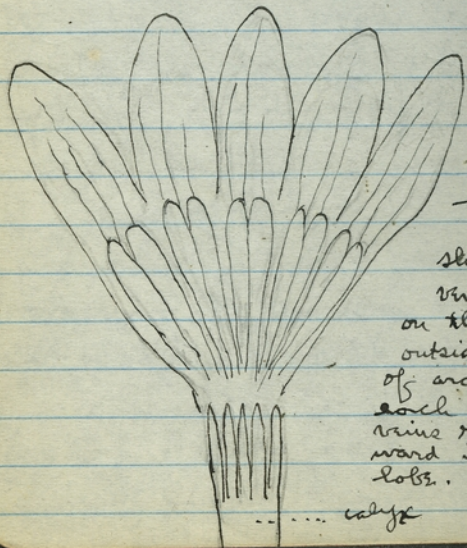
Many plants scattered over the ridge in and near

376

Sugar Loaf Pass, 5 to 7 feet high.
Aug. 23, 1938. Berkeley Hills.
— Cont. no. 19,013. The dead
flowering stems of one year
ago are still stiffly erect.

Howell Mtn., lower slopes near
Sanitarium, Sept. 22, 1938.

No. 19,015. *Navarretia viscidula* Bth.



Corolla:
showing the
venation pattern
on throat from the
outside; the pairs
of arches below
each lobe; the 3
veins running up-
ward into each
lobe.

..... calyx

Howell Mtn., Sept. 22, 1938.
(lower west slopes).

377

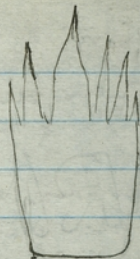
In dry clay soil of valley flat. Calyx
teeth lanceolate, slightly over $\frac{1}{2}$ as long
as tube. Calyx densely glandular-villous
with spreading hairs, suggesting the
appearance of dew on the surface.
Corolla lavender, aging to purple, the
throat purple-veined on a whitish
ground. Anthers blue. Stamens
shorter than corolla-lobes, inser-
ted at base of throat, the insertion
subequal. Cor. tube equalling or a
little exceeding calyx. Corolla
twice as long as calyx; cor-
throat a little shorter than tube.
Calyx ^{white} membranous ^(cor.) wholly save the
green ribs in lobes which run
down only slightly into tube. The
ribs are not extremely broad but
are prominent.

No. 19,016. *Oriogonum gracile* var. ^{gracile}
Perianth yellow or white.

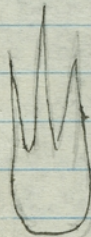
No. 19,017. *Grasshopper*
Grassy, open, a colony scattered over the
area of dead grass. No other living plant



A.



B.



C.

Navarretia

no. 19,015, continued.

- A. outer bract. of head.
 B. median bract of head.
 C. inner bract, subtending a
 flower in center of head.

Cañon of James Creek*, Pope
 Valley, Napa Co., Sept. 24, 1938.
 c. 1000 ft. Litnerary, p. 381.

No. 19,018. Helianthus

James Creek, along creek
 or side hill in moist soil or
 moist gullies. Becoming very bushy
 in favorable localities and $4\frac{1}{2}$
 ft. high. Also observed in
 Butte Cañon, in Callaguni Valley
 and in the valley at the Putah
 Creek bridge. Cont. p. 392.

See p. 402.

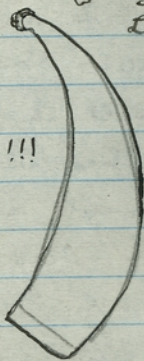
* James Creek =
 Limetkin Creek!
 See p. 387.

No. 19,019. Hemizonia luzulaefolia DC.
 dry hills and flats. Rays white.

No. 19,020. Psoralea

Wet bottoms. Wings ^{purple,} strongly
 keeled laterally, the two thus partially
 enclosing the keel proper, $\frac{1}{4}$ longer
 than the keel proper. Banner orbicular,
 greenish, the upper part purplish with
 2 dark purple central spots. A
 sketch of the stamen sheath is
 * = Limetkin Creek, n. of Pope Valley.

shown here:

Stamen-sheath -
exactly like a horn!!!Stamens 9 and 1,
the tenth stamen
closing the central
horn-like open-
ing neatly and
exactly!!James Creek =
Linsaker Creek!
See p. 387 at
bottom.No. 19,021. *Angelica*Stream bottoms, in rocky bed
of creek. 6 1/2 ft. h.No. 19,022. *Centaurea trichanthum*
Rob.
With 19,021.No. 19,023. *Helianthus*Stems arising from a very
slopy ground base, the leaves
standing thickly, erect. Rays
rounded-ovate, 3-toothed, the
middle tooth the smaller; canary
yellow. Stream bottom.

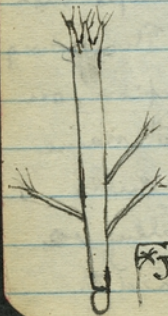
Sept. 24, 1938.

No. 19,024. *Trichostema laxum*
Gray. Cont. p. 385.No. 19,025. *Solidago*
Canyon bottom.No. 19,026. *Castilleja spiralis* Jeps
Cont. p. 386.Rocky stream bottom. Plants lux-
uriant; becoming 4 1/2 ft. h. The two
folders taken represent the lower
and upper halves of one indi-
vidual.Itinerary.Left the Sanitarium, lower ^{west} slopes
of Howell Mtn., at 9:30, Sept. 24, Sat.
Drove over Howell Mt. to Pope Val-
ley Store in Pope Valley. The young
fellow at the gas station, on
inquiring from me, said the name
of the creek running into hills
north side of Pope Valley is
James Creek*. He seemed to
* cf. 57:68

know, although he disclaimed
being an old-timer in the valley,
having come there only recently.

- *Brickellia* no. 19,035, cont. Invol.
cylindric; scales (bracts) linear, 5 or
3-nerved. Achenes subcanescent.
Bracts minutely puberulent. Heads cy-
lindric.

- *Chrysopsis* no. 19,034, cont. Heads
cylindric or slightly contracted
upward. No outer or squamellate
pappus. In Key, Man., p. 1035, "cor.
sparsely hirsute", very obscurely so in
no. , or at least thinly so.



Corolla: showing the ap-
pendages on the sides of
the tube. Other corolla
show only one.

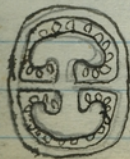
*James Creek, = Linsakiln Creek.
See p. 387 at bottom.

Sept. 24, 1938.

I drive on through this ever eye-
engaging valley to the entrance
of James Creek* cañon. There is a
little ranch at the entrance where
* = Linsakiln Creek.

- *Chrysopsis* no. 19,034, cont. Heads 10 to
12 mm. long. Invol. thinly hirsute. Ovary
densely hairy with straight upwardly point-
ing hairs. Cor. lobes with a few villous hairs,
the tube glab. save for a few scattered hairs.
- *Minulus cardinalis* no. cont.

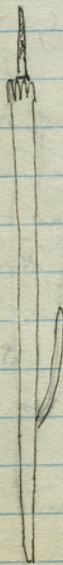
Loke of upper lip very broad and
rounded, notched, strongly turned
backward from the sides. Three lobes
of lower lip subequal, broad, rounded,
notched, turned downward. Throat densely
hirsutose with spreading hairs on lower
side. Anther valvesiliate. Throat $\frac{3}{4}$ to
 $\frac{7}{8}$ in. long. Tube very short. $\frac{1}{4}$ in. long
or less. Cor. lobes scarlet. Stamens
inserted at summit of tube!



X-sect. capsule.

on June 8 (cf. p. 336) I went into the yard of the house to ask a young fellow the name of the creek or cañon. He did not know, nor any one else about the place. On the trip today, Sept. 24, I find there is still considerable water, an evident streamlet, in this little waterway. Cont. p. 386.

- *Glycyphysis*, no. 19,034, cont.



Ordinarily these appendages to the external wall of the cor.-tube lie closely adherent to the tube and are easily overlooked. This one in the figure lay about
← so.

Note, p. 1035, Man. in Key, line 2: "corolla sparingly hirsute"; but what is corolla in species no. 1? There is in

the flower a collar of hairs below the solid ring of true pappus, but I do not construe this ring of hairs as an outer pappus but as belonging to the ovary, arising from the ovary, the uppermost ring or zone of hairs on the densely hairy ovary. Bracts of invol. linear-lanceolate.

- *Trichostema* no. 19,024, cont.

Upper pair cor.-lobes ovate, acuteish, spreading backward; ^(ascending) lower lateral lobes ovate, acuteish, somewhat smaller, spreading horizontally; middle lobe lower lip with upturned sides so as to be concave, the sides or margins a little undulate, this lobe erect, spotted.

Corolla purple. Tube with a mark ~~at~~ ⁱⁿ it, the throat and tube nearly in one line.

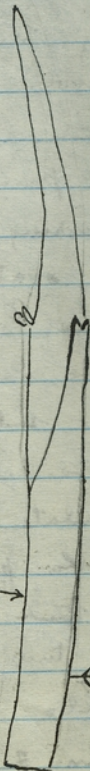
Corolla villous on outside. Fls. in 2 rows on ^{the two} branches of the cyme.

I drive on over the divide into Butts Cañon, thence by Middletown to the valley about the Putah Creek bridge on way to Lower Lake where I collect nos. 19,027 and 19,028

-Castilleja no. 19,026
cont.

Fracts oblancoate,
obtus, the upper
half scarlet, the
lower half green-
herbaceous.

calyx cleft in front
down to here →



← calyx
cleft in
rear
down to
here.

no. 19,027. Euphorbia

gland wing:



gland purple, with
a white wing, the wing short
and broad, deeply and irregularly
notched.

no. 19,028. Calycadenia

Rays 3 (or 2), lemon-yellow,
3 toothed, broader than long,
middle tooth the smallest.

Dry valley flats, subalkaline soil.

The two numbers above were col-
lected in the valley about the
bridge over Putah Creek,
Lake Co.

-Cont. from p. 379, running head.
"James Creek", the real name is
Lindien Creek acc. to County As-
sessor, Napa Co. cf. letter from
H. T. Baade, 1-17-'38 in Jepson
Corr. The name James Creek was
given me locally (-see p. 381).

- No. 19,029. *Eriogonum dasyanthemum*
Dry hillsides

- No. 19,030. *Dicentra chrysantha*
Fine plants on brushy
hilltop.

- No. 19,031. *Antirrhinum virga grayi*
For the most part the stems
in a cluster are simple, unbranched,
occasionally one or two of the more
vigorous stalks ^{in a cluster} have lateral flower
branches at middle of stem.

collecting station

- From north of Lower Lake I
drove on north into Burns Valley;
became lost in the orchards and
came back to main road, re-inquir-
ed the way; turned west, then took
right hand roads northwesterly thru
hills and finally reached Borax
Lake. Sheep have at this time ruined
the flats about the lake. Cont.
p. 397.

- No. 19,032. *Euphorbia*

Glands pale greenish, the
wings white, short, deeply but irregularly
3-lobed. Gravel bed of Putah Creek.

- No. 19,033. *Linaria spuria* Mill.

Lower lip of cor. keeled, 3-lobed ^{foliaceous} at
apex, the lobes inflexed or incurved at
apex. Upper lip emarginate, the
lobes obtuse. Cor. white. Anthers
and filaments woolly. Spur slender,
a little shorter than lower lip.
Bed of Putah Creek. Cont. p. 390.

- No. 19,034. *Chrysopsis*

Stems mural from the base,
erect or diffuse, 1 1/4 to 2 ft. h.
Cont. p. 384, p. 382, p. 383,
p. 399.

- No. 19,035. *Brickellia californica* (T. & G.) Gray Cont. p. 382.

- No. 19,036. *Mimstanthe pilosa*
lyneae.

No. 19,037. *Nicotiana bigelovii* Wats.No. 19,038. *Baccharis viminea* DC. ?

Stems many, forming a
dense clump, mostly unbranched,
9 ft. h.

No. 19,039. *Mimulus cardinalis*
Dougl.

Cont. no. 19,039.



Diagrammatic sketch.

a, the 2 folds or protuberances on
palate of lower lip. b, spur, extend-
ing horizontally from pedicel.
c, upper lip, purple. d, lower lip,

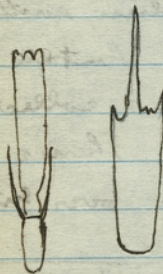
yellowish; ¹stamens trailing on ground.
E, anthers.

— Cont from bottom p. 388. I return
to Lower Lake and then south*
to the valley at the Putah
Creek bridge where I collect
nos. 19,032 to 19,039. Thence
back to Saint Helena over mt.
Saint Helena.

* Going south, ^{from Lower Lake} one crosses low
hills into a small valley; then
over low hills into Excelsior Valley.
In this valley, on southwest side, near
Copey Creek, is a large ^(Quercus lobata) oak on
the fence line bounding the road-
way. It is 105 ft. h. and 29
ft. 1 in. at 4 ft. Its trunk is
40 ft. h. ^{(** Cont. p. 394).} Unbranched
I cross, driving south-
ly, another low divide than the
two northerly ones ^{but more marked} and am now in the
circular valley through which flows
large Putah Creek, at the bridge (of above).

No. 19,040. *Rosa californica*
Lake Co., Excelsior Valley

-*Helianthus*, no. 19,018.



... bract

flower, with
2 sepals.

Rays 8, 8, 8, 8,
7, 7.

short,
Cor. tube a little
influous-dilated.
Cor.-throat long.

Howell Mt., La Jota Mesa

napa Co. Sept. 28, 1938

No. 19,041. *Arctostaphylos stan-*
fordiana Parry. 6 ft. h. Bark
bright red or lively red-brown,
sometimes crimson.

No. 19,042. *Quercus dumosa* Nutt.
Seedlings.

No. 19,043. *Arctostaphylos glau-*
dulosa
6 ft. h. Trunks slender, averaging

Howell Mt., La Jota Mesa,
napa Co. Sept. 28, 1938.

1 in. diam., 4 ft. high before branching
!!, arising from very heavy sub-
hypogaeous platform - at level
of ground or slightly covered
by soil or surface litter

No. 19,044. *Calycadenia truncata* K.
dry clay soil in open
brushy country. Peter. Four Corners
and Sanitarium at the "hair-
pin" turn in road.

No. 19,045. *Quercus wislizenii*
A. D. B. La Jota Mesa.

Mt. St. Helena*, Oct. 1, 1938.

No. 19,046. *Gnaphalium*
The folder represents
one of the stems from the base.
The stems from the base are 5
to 9 or more, forming a bushy
but erect plant. Colonizing broken
ground. On south slope of
* Itinerary. See p. 403.

mountain half-way to pass.

No. 19,047. *Stephanomeria virgata*

Fls. pink, aging darker

on drying. With 19,046.

No. 19,048. *Juncus effusus*

(det. Beecher Craymen, 8/77)

Colony in a springy sedge
a short distance beyond pass (Molly
Patton Inn) on east slope of mountain.

Stems very heavy, 3 to 3½ ft. h.,

2 to 2½ ft. broad.

No. 19,049. *Cyperus*

In a springy spot near
the preceding.

No. 19,050. *Grindelia camporum*

Greene. Open dry slopes. Taken
on account of the "gall" structure.

With no. 19,049.

Cont. from p. 391 at **.

This Valley Oak is a quite splendidly
impressive individual. I now find that
my student Ruth Ruddle gave me
a fine photograph of it in March,
1912! See Jepson Photo Collection.

— Oct. 29, 1938.

Bridge over Putah Creek, in
the stream bed (S. Lake Co.).

No. 19,051. *Eriogonum wrightii*

Ter. ex Benth. in DC. Var. *trachyglossum*

No. 19,052. *Lotus hemistictus* Greene

Cor. yellow. Prostrate in sandy bed.

No. 19,053. *Lotus Puerhianus* (Benth.)

^{clim. & clim.}
Decumbent. Stream bed.

Cor. whitish and pinkish.

No. 19,054. *Mollugo verticillata* L.

No. 19,055. *Amarantus gracilis*

cf. p. 402. Prostrate. Leaves white

marginated by a narrow line.

Half of plant cut away in folder "b."

No. 19,056. *Baccharis*

♂ Bushes 7 to 10 feet high,

dense clumps. Shoots of the

season mostly 4 to 6 ft. long,

erect, unbranched or with few

weak laterals above middle.

These shoots arise from the

396

Boyote Valley.Bridge over Putah Creek (S. Lake Co.)

shoots of the previous season which have died back. These previous season shoots are this trunk for next season's growth; mostly they are short but sometimes long. I notice one long one, ^{erect,} 5 ft. h., the new shoots from it all from one side or nearly. In general the new shoots are from one side of the "trunks".

The shoots of a given season die back during the winter, they are borne down stream by winter floods; from their upper side the shoots of the next season arise. The old stems thus accumulate on the down stream side of the bush. The "trunks" or main stems at base of bush are 2 to 3 inches diam.; I find one inches diameter!! - I seem to find that these growths which

Oct. 1, 1938.

397

represent activities of 2 years, last no longer than two years and then are turned downward into the mass of old dead branches on down-stream side; but there must be over-lapping of years in this.

Flowering is either scanty or has not yet begun to any extent. Staminate plants were more frequent than pistillate, so far as noticed. Cont. p. 400.

No. 19,059. *Baccharis*

♀ Cont. p. 400.

No. 19,058. *Mentzelia laevicaulis*
T. & G.

No. 19,059. *Calycaenia*
parviflora Gray stream bed.

No. 19,060. *Datura tatula* L.
3 ft. h.

No. 19,061. *Solanum rostratum* Dunal.

No. 19,062. *Calycadenia*
 Forming dense colonies
 on the dry grassy floor of the
 valley and especially on the low
 hill slopes. Rays yellow. Guano V.

No. 19,063. *Trichostema laxum* Gray.
 Stream bed, Butte Cañon, S. Lake Co.

No. 19,064. *Senecio clelandii*
 Greene. The flowering stem is
 now dead, clear to bottom; but
 the basal tuft of leaves are
 green and erect as if formed
 last week.

No. 19,065. *Salix Breweri* Rebb.
 Dominant in the stream bottom of
 Butte Creek, in Butte Cañon.
 Bushes 4 ft. h., 6 to 7 feet broad;
 stems 20 to 50 from base, little
 branched, $\frac{1}{4}$ to $\frac{1}{2}$ inch diam.

No. 19,066. *Lithocarpus densiflorus* ^{red}
 Mt. St. Helena, east slope,
 $\frac{1}{2}$ mile below pass.

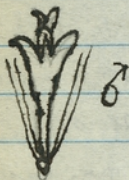
No. 19,067. *Pinus attenuata* Lemmon.
 Little colony on dry slope e. 1
 mile ^{north-} east of pass over Mt. St.
 Helena. Noticed 6 or 7 trees.

- *Chrysopsis* no. 19,034. Bushy plant
 with ascending branches, $\frac{1}{2}$ to $1\frac{1}{2}$ or
 2 ft. h., 1 to 5 ft. broad. Putah
 Creek bridge.

- *Brickellia* no. 19,035. Low or broad
 bushy plant. Shoots simple or
 with weak short lateral branches,
 50 to 500 in a bush; bush $2\frac{1}{2}$
 ft. h. and 7 ft. broad; rounded,
 that is with compact flowing
 outline. Putah Creek bridge.

- *Trichostema lanceolatum*
 Cyms all turned outwards,
 leaves turned inward or towards
 center of plant, standing in
 4 ranks approximately.

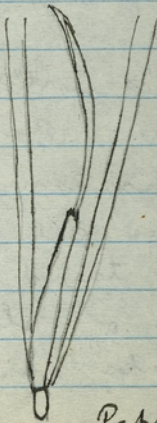
- Baccharis (no. 19,056), ♂. Pappus hairs slightly flattened at apex, very slightly if at all, a little hairy. Anther-tube with divergent stigmas protruding. Bracts of invol. scarious-margined, ^{in some} obscurely and partially villous-ciliate, in others distinctly villous-ciliate. Corollas with distinct curving oblong-auriculate lobes, the pappus a little shorter.



- Baccharis no. 19,057.

♀

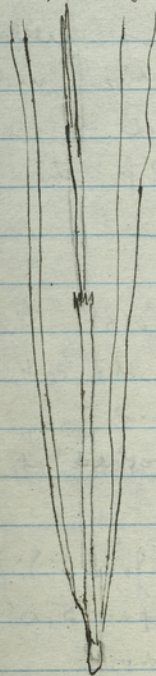
Corolla with only a microscopic vestige of lobes.



Pappus hairs

not dilated at apex. Bracts of invol. scarious-margined, villous-ciliate markedly. Style with 2 unequal stigmas!!

5 stigmas a bit unequal.



Staminate and pistillate fls. are about the same size. The sketches are not drawn to scale, but merely designed to express gross features

Digitaria sanguinalis (L.) Scop.
 No. 19,068. ~~*Erythronium*~~ *doctylor* Pers.
 notice the undulate bands on

leaf margins. Putah bed.

No. 19,069. *Antirrhinum vagans* Gray.

Cor. pale lavender; upper
 lip cleft nearly half way, the
 lobes inclined a little back to
 back. Lower lip: the middle lobe
 cross-ridged just below the prom-
 inent palate of lip, the palate
 2-protuberant. Putah Bed.
 Creek

- *Helianthus* (No. 19,018). This seems to
 be *H. bolanderi* but the disk is only
 about $4\frac{1}{2}$ lines broad, rays 5 lines long.
 Rays 6, minutely 3-toothed at a very
 narrow apex.

- *Amaranthus* (No. 19,055). Capsule
 circumscissile. Sepals 5, all unequal,
 scarious-margined.

No. 19,070. *Quercus kelloggii* Newb.
 St. Helena Sanitarium.

- Cont. from p. 393 at *.

I left Saint Helena Sanitarium
 about 10.00, drove to Calistoga,
 thence up the Mt. St. Helena grade,
 stopping about half-way to old
 toll house (Patton's) to batonize, and
 again on east side about 1 mile
 beyond toll house (nos. 19048-50),
 thence to Coyote Valley where I ex-
 plored the bed of Putah Creek
 near the Bridge. Thence I tried
 a country road, short way to Butte
 Cañon, left turn, $\frac{1}{2}$ mi. S. of
 bridge, but after about 5 mi.
 became involved in ranch roads
 and finally a locked gate; so,
 had to return to highway and
 go back to Middletown or nearly
 to pick up the road to Butte
 Cañon. In Butte Cañon I took a
Sarcis Clevelandii plant for my
 garden. after which back to Sani-
 tarium.

Berkeley, Oct. 11, 1938.

- P. B. Kennedy. His private herbarium has been purchased by the California Academy of Sciences.
- Kellogg & Harford. Their distribution of 1868-9. "San Antonio Creek" with them is that in s. Hemet Co. ^(Ore)

Vacaville, Oct. 15, 1938.

No. 79,071. *Aster menziesii*?

Valley flat, in front of old Brock ranch.

- At the marsh by Basalt Hill, Cordelia, I picked good flowering material of *Melilotus alba* and made these notes: 3 lower calyx-teeth spreading! (almost horizontally), the 2 upper erect. Keel and wings subequal, the banner $\frac{1}{4}$ longer; banner troughed medially, the sides turned back in such a way as to leave a ridge on either

side of trough. - Apparently ^{some} difficulty developed in distinguishing this species in dried material from dried spurs. of *Melilotus indica* under the queries of J. Ewan when Ewan was in my laboratory. Never, once, in the field were the two ever confused or confusable in my mind - but book differentiation appears to be weak.

Kings River, Nov. 27, 1938

Drove to Kings River east of Fresno. Stopped over night in Fresno (having driven from Oakland with Mr. and Mrs. Frank Kettlewell on Nov. 26) and early Nov. 27 (Sunday) drove east to Centerville and Square Valley. The trees of *Populus fremontii* and *Platanus racemosa* are in autumn foliage, luminous

yellow of the former and burning bronze of the latter), adding greatly to the pleasure of this sun-lit day. Climbed on to Dunlap which lies at the westerly end of a great east and west valley in the hills — but no flood-plain valley floor, a rolling plain. From here we climb to Miramonte and Pinchurst. At the Pinchurst Ranger sta. I found Myron J. Horn (U. S. Forest Service), who went with us on the road easterly to a point about 3 miles, where on a lateral ridge (a wagon trail goes off the main road here) there is a manzanita on the ridge. It is an individual of considerable size, but far past maturity — 100 years say.

There are about 21 branches from the base. On account of this large number the circumference at the ground is huge, 10 ft. 8 inches. There is no proper trunk but some of the main stems are huge; one is 3 ft. 3 in. at 3 ft. above ground; another is 1 ft. 11 in. at 4 feet; a third is 2 ft. 1 in. at 4 feet. Of the 21 branches or stems from the ground, 9 are dead; of the 12 living ones the stems have much dead wood on some of them. The crown is 33 ft. longest diameter. The height is 20 feet 7 inches. Ralph G. Brown discovered ^{Ranger} this individual. A specimen was taken. See my no. 19,090

No. 19,070a. *Arctostaphylos* ^{mar-}
^{posa} Dudley. The individual
described on p. 407. Pinelhurst
No. 19,071. *Arctostaphylos* ^{Fresno Co.} *patula*
Greene. Grant Park.

(near Sequoia Lake, near)

No. 19,072. *Senecio douglasii* DC.
Btw. Squaw Valley
and Dunlap, Fresno Co.
No. 19,073. *Ericameria*
Miramonte, Fresno Co.

Sequoia gigantea.

- We drove on to Grant Park
and took a look at the
Grant Tree. It is a fine tree
but does not off hand
seem any larger than a
number of other indi-
viduals in the forest. The
strongest impression was made
by some marginal trees,
quite imposing, in an un-

crowded situation in an open gulch
as we went up, before reaching
the Park.

- Parish, Samuel B. I called last
night upon Mrs. Parish at her
home on scenic Avenue. She
gave me an exceedingly warm
welcome. Many years ago, in
1913, I had photographed the
Parish home in the San Bernar-
dino Valley when I was on a visit
to them. It proved to be a
charming picture of their simple
ranch house. I framed a
print and made them a
present - but the picture was
lost when everything was
destroyed in the great Berkeley
fire. So last night I
took Mrs. Parish my own copy
of this picture and when
I put it into her hands
she was inspired to talk.

When Mr. Parish and his brother William first occupied the place the ranch house consisted of three rooms. They added to it and made it 7 by the time Mrs. Parish came as the bride of Samuel. It was added to further and became 14 rooms by the time I was a guest there. Mrs. Parish spoke of the house as an ordinary California ranch house but extremely convenient and in it they had much comfort. The brother William soon tired of farming and Mr. Parish bought his share of the ranch. Mrs. Parish in speaking of those days said she and Mr. Parish were very happy

Jan. 2, 1939.

there, they had great happiness together.

Mr. Parish was teaching school in Mobile, Alabama at the outbreak of the Civil War. He went to Kansas and enlisted in a Kansas Cavalry Regiment. He saw some battles but only a few. He was mostly attached to a company or squad that went about with the paymaster, guarding the soldiers' pay. He found this assignment very pleasant. On account of certain delays he was not mustered out at Fort Leavenworth as early as his brother William who was in an eastern regiment; the paymasters work took more time. Various officers had to make out reports.

This they were quite unable to do and Mr. Parish did it for them, being paid specially.

Starting west, he and his brother William lingered a year in Colorado. He always had to have intellectual ^(S. B. P.) occupation, and here he made a vocabulary of the Indians, I think Mrs. Parish read the Pintos.
- Jan. 2, 1939.

Both Mr. and Mrs. Parish were and are gentle kindly considerate souls with a thoughtful attitude towards others. Even so, they were discerning and penetrating in judging human nature - tolerant and considerate - but still sure and penetrating in discovering guile, egotism or intense self-love.

Called this afternoon John Howell, Assistant Curator of the California Academy of Sciences. He said: H. N. Bolander's wife bore twins. Bolander wrote Asa Gray saying that he had two new species, *Bolandra Aramintha* and *Bolandra Arabella*. Asa Gray replied, expressing disapproval of the name, saying the Latin was not very good. Whereupon Asa Gray saying that the names ^{Bolander wrote} referred to his twin daughters.

Howell says he had this story from L. B. Henderson.
- Jan. 11, 1939.

(see above)
We, Howell and I talked a bit about answering letters and our methods. We both answer the day received if possible and briefly if not otherwise. This is the best way and corres-

pondence is thus rid of. Howell spoke of persons who never answer letters and mentioned Abrams of Stanford as an (L.R.) example. Howell also gave me an account of W.A. Setchell's refusal of his (Howell's) herbarium of 8000 specimens. See my private journal, Ulen and Monner, vol. 11, p. 252.

— Eugene Neuhaus talked this morning about the fine botanic gardens in western Europe near the seaboard; the further east you go the harder it is, on account of severe winters, to maintain a botanic garden.

Neuhaus says the w. coast of Ireland is similar to our Cal. coast between Monterey and Santa Barbara. He also

said that *Sequoia gigantea* and *sempervirens* were killed by cold at the Royal Botanical Gardens, Berlin, in the ^{severe} winter of 1928, if I recollect the year rightly. — Jan. 16, 1939.

— Ernest Gifford, student of Edmund Jaeger, Riverside High School, called today bringing a folder of *Calliandra eriophylla* from the Chocolate Mountains. He seems much interested in desert plants, as if a promising naturalist. — Jan. 20, '39.

Private Collections

— Dr. Edwin C. Van Dyke, one-time a member of the Chamisso Botanical Club (1891), walked with me on the campus today as we left our building at the noon hour. He says he is retiring soon (age limit), is giving his ^{finest} collection to the

Berkeley, Feb. 12, 1939.

California Academy of Sciences in San Francisco, is going to the Academy after retirement and will have a workshop there. He says at the Academy he will have quiet and peace, without interruptions, which would not be the case if he stayed in the College of Agriculture here in the University. Van Dyke is an entomologist. He says his insect collections are his own. I understood from him that the University has no insect collections of moment, whereas the Academy possesses important historical collections.

- Called today my old friend Dr. H. J. Webber of the Citrus Experiment Station, Riverside.

Berkeley, Feb. 23, '39.

He had a lot to say about the Rancho Santa Ana Botanic Garden. He rather forced Mrs. Bryant's hand in the matter of endowing the garden. Mrs. Bryant had in a way endowed it but kept the funds under private control. At a public gathering at the Garden (A.A.A.S.) Dr. Webber was called upon to speak and in the course of his speech continued to bring it in that the Garden as it stood was not provided for permanently.

Mrs. B. shortly after put the funds out from under her own control - fortunately, since the "depression" arrived soon. Dr. Webber says what is obvious, that Mrs. B. will herself direct the garden as long as she lives and until then one must work with her as one extremely susceptible to flattery. - Feb. 23, 1939.

Drove to San Jose with Prof. J. I. Davis of Stanford to call upon that rare botanist Dr. L. H. Knecht, at 688 Miller st., where he has built himself a home, a laboratory, a library building and so on. We found him on crutches. He had been injured by an automobile and his left leg broken in three places. He had been in hospital eight weeks I think he said. He receives us in the most cordial manner imaginable. His home is of stone, and ^{elegantly and} solidly finished. His living room is wonderfully walled with African mahogany of great richness, the floors in oak diamonds, all the ornamental additions being solid and rich. The bath room is very handsome in all its

appointments. And so with all the house. The outer doors are of iron frames with wire mesh. The gutters and finish trimmings of the windows are copper. I think he said the entire building scheme cost \$40,000. The group of buildings from the street seems extremely unpretentious. The buildings are one story and low. The rooms are all very small, or at least seem small because, perhaps, so well filled with furniture. His library is very extensive and fills a special building - there is scarcely any free space in it. Much of his material, plants and books, have overflowed into his garage. He pays much attention to his garden, has ducks, innumerable comarice and two dogs. One dog is a German police dog, the other a. He remarks

that Knoche means bone and his place is called Knoche de Hofen or Bone-yard! The police dog he calls Mut der Knoche-Hofen or the Courage of the Bone-yard, the other der Fankuzer der Knoche-Hofen, or the Lazy-bones of the Bone-yard.

His office is in keeping with all the remainder; his laboratory connected with expensive equipment. The care of all this elegance would seem to have canceled botanical research. He says he means to get to work - but so far he has done nothing. Of course while in Europe he was highly productive.

- Came to call today:

Willard E. Shanteau.

To Natl Park Service

Death Valley Calif.

and a Mr. Jones, a student of the University. Shanteau, perhaps both, are just in from Death Valley. Shanteau is an assistant M. French Gilman, in the National Park Service. He has a thorough-going admiration for Gilman and considers him the best naturalist in western America. Shanteau is a high school lad from Indiana, who got into the

Civilian Conservation Corps, and thence into the Park Service. He knows very little botany ^(see p. 490 seq.) but is eager and determined to get an education somehow. He is getting a great deal from Gilman. He takes the most intense interest in the rare plants of the valley and has counted up 24 endemics for the Death Valley region. They had 1 1/2 inches of rain in Death Valley about bluishness. Shantear is probably now about 24, has a bright eager face and evidently possesses a determination to learn the natural history sciences. They came

to me about 11:45 this morning and we kept up a rapid fire of talk until 1:00 o'clock.

Elmira sta. (3 mi. ex), Solano Co.

2 April, 1939

drove this morning to Little Oak, in the afternoon drove on the long road east. About 2 mi. east of the Elmira-Denverton road collected in a field by Alamo Creek the following:

No. 19,074. *Layia chrysanthemoides* ^{CC Xeroph}
 Rays 8, 9, 8, orange with white tips. Common in the field, east of this point making a continuous sheet of color on either side of road, for 2 miles, but not so scarcely in fields on account of pasturing. It was a wide-spread color species on the primitive plain.

- "no. 19,075. *Lathraea glaberrima*
Elmira 3 mi. se., with 19,074,
in low places in field, warm paths
or furrows. Dense colonies.

from Elmira
Drove east to Searsville - Rio Vista
road, thence south. On east side
of road, about 3 mi. n. of
Dozier sta., is a tract of low-
valley land with its typical
low rounded hills. This
area - a hundred acres - is
yellow with *Baeria*, no. 19,078. I
collect also the following:

- "no. 19,076. *Brenaria californica*
Brew. Common but hidden
in other vegetation since only
1 or 2 inches high.
- "no. 19,077. *Pogogyne zizyphoides*
Cor. purplish blue. ^{Heard.}

- "no. 19,078. *Baeria*
Rays 8, 8, 7, 3. * See note
on p. 424. See also below * *
"no. 19,079. *Orthocarpus attenuatus*
Gray.
Cor. dull white.
- "no. 19,080. *Astragalus*
Cor. light blue with the keel dark-purple.
Not abundant, but frequent.
- "no. 19,081. *Lilaea erecta* H. & A.
Common but utterly concealed
by other vegetation
-
- *Salvia apiana*, cont. from p.
463 seq. On valley flat, Aguanga,
a colony. I measure one individ-
ual 13 feet broad; sterile shoots
4 ft 6 in. high, flowering shoots 5 ft.
6 in. higher. Shrub with 125 shoots.
Ever green.
-
- Evergreen *Pentstemon*. Aguanga, Ja.
-
- * * *Pappus paleae* 5; ovate, am-
pointed, alike in disk and ray.

Left Berkeley, 12:30 o'clock p.m.
 April 12, bound for the Council
 Meeting, Rancho Santa Ana Botani-
 Garden, Anaheim, on Saturday
 next, Apr. 15. Drive to San Jose,
 thence Gilroy, Salinas, King City,
 where I stop the night (Hotel
 Vandover). Was much struck
 by the expanse of Salinas.
 It has spread out over the valley
 plain for miles - hundreds and
 hundreds of little shacks - small
 dwellings. I saw these shacks
 built in similar units, strung
 along like beads, - a series of
 chicken-coops and not much
 larger than coops - in the
 large with the regularity of
 a honeycomb.

It is a dry season. Al-
 though not mid-April yet, the
 hill range on the east side

shows a mile of brown here and
 there, all the way along.

No. 19,082. *Monolopia*

Rays 7, 7, 8. Abundant in
 grain fields of valley flats 2 mi.
 n. of San Ardo. Rays light yellow*.

No. 19,083. *Ausimckia tessellata* Gray.

No. 19,084. *Malacothrix coulteri*

Infrequent.

No. 19,085. *Phacelia tanacetifolia*

Bth.

Cor. lavender.

* The two folders taken represent (1)
 a "thin" or slender-stemmed plant
 with narrow leaves and open
 or sparse branching, and (2) a
 "fat" or coarse-stemmed plant with

broader leaves and thicker leaves, and larger heads. These two growth forms, alike in all essential characters, are often displayed by many species especially in the Compositae.

- ✓ No. 19,086. *Viola pedunculata* T. & G.
ssp. *tenuifolia* B. & C. L.
Openly wooded rolling
country west of the village $1\frac{1}{2}$ mi.
No. 19,087. *Orthocarpus densifl-*
-oens Bth.
No. 19,088. *Ranunculus californicus*
Bth. Yellowing moist spots ^{on slopes} or
flats in the low hills.

- Continued from p. 460. Mrs.

Jearhart gave me her card (see
Jepson correspondence, Apr. 18, 1937)
which described the stage station
as 110 years old, say founded 1929.
That is a long ways back - but it lies
right in the old route from Sonora, Mex.,
to Los Angeles.

- ✓ No. 19,089. *Solanum douglasii*
Dunal. Cor. white, its lobes broad-
lanceolate. Bushy plant, 2 ft. h.
No. 19,090. *Solanum douglasii* Dunal.
Purplish or lavender cor.
Very like preceding, and growing
with it in bottom of a small
gully. Bushy, 2 feet high.
habit,
No. 19,091. *Diplocaus glutinosus*
Nutt. Hillslopes.
No. 19,092. *Convolvulus*
Very showy, climbing
over bushes, banks, trees, along
the coast about Pismo. Cor. white
inside or faintly pink-banded,
outside with pink-mauve bands,
aging pink when closing.

Apr. 13, 1939.

"No. 19,093. *Lupinus nanus* Dougl.
Valley flat. **"No. 19,094. *Malacothrix californica*

Ligules nearly white, but
with a tinge of lemon-yellow.
Sandy flat. ^{faint} Not yet well in fl. The two
individuals are quite unlike in detail ***

"No. 19,095. *Baeria*"No. 19,096. *Cryptantha Clevelandii* Greene
var. *florosa* Ten.

*** The rays in one are a clear lemon
yellow, in the other are
purplish outside!

— *Ceanothus spinosus* Nutt. San Marcos Pass.
9-11 ft. h.

* About 7 mi. ss. on road to Los
Alamos.

**Cor. blue, the banner with the
sides strongly reflexed, the
center of the banner to the top
clear white, this white soon
aging to crimson!! — not a
dull or dirty color — but lively
brick-crimson!

Apr. 13, 1939. See * on p. 430.

"No. 19,097. *Microseris linearifolia*

"No. 19,098. *Gilia* ^{angelensis V. Grant} ~~multicaulis Bth~~
Cor. pale purple.

"No. 19,098a. *Senecio californicus* DC.
Common.

"No. 19,099. *Phacelia douglasii* Torr.
Cor. purplish blue.

"No. 19,100. *Lupinus*
Bush 3-4 ft. h. Very
floriferous. Cor. light blue, quad-
ratic center of banner whitish,
the banner aging crimson. Keel
naked save for a few cilia just
below the beak.

— In the valley beyond (easterly
and south easterly) the trees of
Quercus lobata are just bursting
with a light or grayish cast
to the young foliage. There is a
suggestion, a little, of willow
trees in this quickly passing
phase.

- Drove by way of Los Alamos
over San Marcos Pass to Santa
Barbara. Put up at Hotel Gooding,
where next door is the office
garage of the Southern California
Automobile Club which did
an excellent job of repair on
my car.

Butter. Punta ^{San} Dulce, ^{San} Ventura Co. Apr. 14, 1939

No. 19, 101. *Encelia californica*

Broad bush 3 to 4 1/2 ft. h.

Rays 18, 17, 24, 16, 15, a little overlapping.

Abundant on hill slope facing sea.*

No. 19, 102. *Mirabilis*

Perianth crimson, patterned

in the desert species. Anthers
yellow. Low bush.

* Rays yellow, disk black.

** Near sea bluff etc.

No. 19, 103. *Plantago*

No. 19, 104. *Microseris douglasii douglasii*

No. 19, 105. *Micropus californicus* Z. & M.

A common imbricoid.

No. 19, 106. *Baeria*

No. 19, 107. *Orthocarpus*

No. 19, 108. *Ranunculus*

No. 19, 109. *Sanicula*

No. 19, 110. *Viola pedunculata* T. & G.
ssp. *tenuifolia* B. & C.

No. 19, 111. *Microseris heterocarpa*

No. 19, 112. *Amsinckia* ^{Menziesii} ~~halleri~~ Brand.

Corolla saffron, small.

"No. 19, 113. *Ceanothus megacarpus* Nutt.

Horns of fruit very large!

The dominant in the chaparral in a cañon head just below summit, 5-7 ft. h. Horns green.

"No. 19, 114. *Encelia californica*

"No. 19, 115. *Astragalus*

Many stemmed from base, ascending.

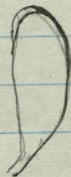
"No. 19, 116. *Ceanothus spinosus* Nutt.
[H-2] 9 ft. h.

"No. 19, 117. *Leptodactylon californicum* H. & A. Cor. a most lovely crimson, most handsome bushes on hillside.

- *Artemisia californica* forms pure colonies on the lateral ridges just below no. 19, 113, but in places mixed with no. 19, 113, *Pluchea lawrencei*, scrub oak, *Adenostoma fasciculatum* (a little)

- Dr. Wolf shows me the two flowers growing in near-by plots: *Trichostema lanatum* and *T. parishii*.

T. lanatum, leaves shiny green above and glabrous; cor-tube about twice as long as calyx; stamens 3 cm. long (measured across the curve). Middle lobe lower lip hooded, so; the sides
See no. 19, 118.

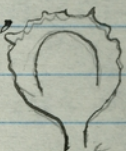


of the middle lobe forming a deep keel or lobe.

T. parishii, leaves dull green above and microscopically trispiculose; corolla-tube about as long as calyx; stamens 2 cm. long measured across

the curve, middle lobes lower lip open, the sides not turned in to make a keel or hood, saucer shaped or shallow,

so:



See no. 19, 119.

- *Romneya*; 2 dif. kinds as to leaves.

- *Umbellularia californica* Nutt.

Tree at Marin Dell School, 5 mi. n. of San Rafael, left hand side of road: 65-75 ft. h.; spread 112 ft.; trunk 26 ft. circ. "at smallest point". Measured Oct. 18, 1934

by C. B. Wolf and E. P. Johnson.

Note taken from herb. spec.

- At the meeting of the Council of the Garden it was said:

- *Calochortus clavatus* is in Panoche Pass By Allan Chickering

- *Lysiothamnus floribundus* Howell at about 8 yrs. old. - Theo. Payson.

- *Fragaria chilensis* is dioecious

or polygamous at the Garden: C. B. Wolf.

- *Eschscholzia cucullata*; straw-yellow or lemon-yellow fls., foliage compact, finely divided, the fls. set well above. - Cult. at Garden, (C. B. Wolf.). Short buds, not attenuate at apex, or very shortly. Pt. Reyes form.

- At the Council Meeting of the Garden were: T. H. Morgan, Cal. Institute Tech.

— Walker, a Los Angeles lawyer.

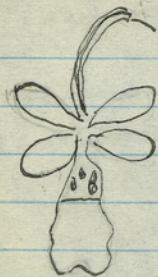
Shirley O'Melveny, " " " "

Theo. Payson, Los Angeles nurseryman.

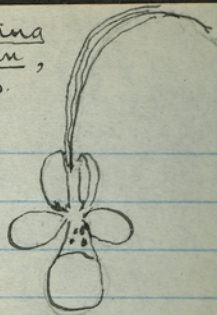
Miss Eastwood, Cal. Academy of Sciences. (Mrs. Bryant pays her way by train; she has a fine 3-day holiday; and say, she would not miss a meeting for anything.)

Allan Chickering, San Francisco lawyer,

And of course Mrs. Ernest Bryant and myself.

*Trichostema parishii*Rancho Santa Ana
Botanic Garden.Lobes of upper lip (upper
pair) spreading right
and left, lavender.Lateral lobes lower lip
(lateral pair) spreading
right and left, lavender.Upper pair and lateral
pair same size and
same shape and color!Middle lobe lower lip
openly keeled, purple,
the lower portion
white, purple spotted.

See no. 19, 119

*Trichostema lan-
atum*. Rancho
Santa Ana Botanic
Garden.Upper lip: the 2
corolla-lobes appo-
ximate face to
face.Lower lip: lateral
lobes spreading
right and left.Upper pair and
lateral pair same
size and shape
and color!Lower lip middle
lobes: openly
keeled; lower part
white, purple-
spotted, upper
or main part
purple! All other
lobes lavender!
See no. 19, 118.

Apr. 15, 1939.

no. 19, 118. *Trichostema lanatum*Rancho Santa Botanic
Garden. The description of corolla
on p. 435 is largely replaced by
the notes on p. 438.no. 19, 119. *Trichostema parishii*Description of cor. on p. 435 largely
replaced by notes on p. 438The corollas of the two species are
wonderfully: both have lavender
upper lip and lateral lobes, the
middle lobes in each case being
purple with the "claw" white with
purple spots. The pairs of the
upper lip and lateral lobes are
alike in shape, size and color in
each species and the two species
are alike in this respect. *Tricho-*
stema parishii is a weak species.— Finished with the Council Meetings at
the Botanic Garden and drove, leaving about
4:00 o'clock, for Corona. Put up at Hotel King,
April 16,
and next morning took road to Temeacala.

No. 19, 120. *Lamarckia aurea* (L.) Moench.
Grass on sandy soil

No. 19, 121. *Microseris heteranpha*
Sandy soil

No. 19, 122. *Lupinus*
Sandy soil

No. 19, 123. *Amsinckia menziesii*
F. & M. Strictly erect, simple
or little branched; corolla; small
pale yellow corolla. Sandy soil.

No. 19, 124. *Solanum xanti* Gray var.
glabrescens Parish. Strictly erect and erect
branching; woody below; corolla
purple. 2-3 ft. h. Temescal Cañon
near Twin Spres.

No. 19, 125. *Nemophila menziesii*
H. & A. Cor. bright blue, lively.
Corolla 1-2 ft. across. Sandy
soil. erect mostly. With 19, 124.

No. 19, 126. *Cryptantha intermedia*
Greene. Temescal Cañon, near
Twin Spres. Sandy soil

No. 19, 127. *Amsinckia intermedia* F. & M.
Sandy soil.

No. 19, 128. *Phacelia tanacetifolia*
Bth. Erect or branching
from base and ascending.
Cor. blue. Shade mostly.

No. 19, 129. *Melica imperfecta* Trin.
(Det. Beecher Crampton, Aug. 1977)
Grass in heavy stores
on sandy hillslopes.

No. 19, 130. *Calidiorhiza californica*
Gray. Sandy soil

No. 19, 131. *Gilia angelensis* V. Grant
multicaulis Bth. Corolla white or whitish

or very pale lavender. Calyx
longer than cor. tube, often much
longer, nearly as long as cor-
throat. Calyx-teeth $\frac{1}{2}$ as long as
calyx-tube. Leaf-segments bilobed.
Yet other flowers: calyx exceeding
corolla-tube, $\frac{1}{3}$ as long as corolla-
throat. Stamens inserted in sinuses,
rather short (same length as in

442

Temescal Cañon (N. end, near →

900 ft.

or lavender

the purple (Jilia, no. 19, 132). Calyx teeth (expanded) but closely laid ^{spreading} against cor.-throat. Infl. glandular-pubescent. Flowers mostly or characteristically in clusters. Anthers light blue.

No. 19, 132. *Jilia exilis* (Gray) Abrams. Corolla lavender, throat

yellow, tube dark or dull brown. Calyx shorter than cor.-tube ($\frac{2}{3}$ as long), its teeth $\frac{1}{4}$ as long as calyx-tube, constricted about cor.-tube; membranous intervals conspicuous, plicately extended outwards so as to make narrow ridges, white! Anthers blue. Stamens inserted exactly in sinuses, $\frac{1}{3}$ as long as lobes. Infl. glandular. Fls. solitary.

Thrin Spro.), Riverside Co., Apr. 17, 1939.

443

No. 19, 133. *Borlesia lobata* forming matted colonies in shade of oaks.

No. 19, 934. *Baeria*

Sandy flat.

No. 19, 135. *Plum ovata* Wats.

15 ft. h.; hill slope

No. 19, 136. *Pityrogramma triangularis* (Kauf.) Maxon var. *triangularis* This fern in a part-

ly shaded spot, but on the whole sunny. Hillsides.

No. 19, 137. *Salvia columbariae* Bth. Sandy flat.

No. 19, 138. *Chenactis*

Sandy flat

No. 19, 139. *Phacelia distans* Bth.

Elsinore. Cor. blue. Sandy flat

No. 19, 140. *Stylcline gonophaloides* Nutt.

This inuloid on a sandy

"burn". Elsinore.

No. 19, 141. *Plagiobothrys tenellus* Gray.

sterile spots.

No. 19, 142. *Fillaea*

No. 19, 151. *Stylocline graphalioides* Nutt.
This inuloid or semi-

sterile spots.

No. 19, 143. *Lotus saliciginosus* Greene
Banner large!!

No. 19, 152. *Lotus saliciginosus*
Greene

Cor. yellow, brich red outside.

No. 19, 144. ^{*Linanthus*} *Gilia dianthusflora* (Bth.).
Cor. pink.

No. 19, 153.

Inuloid on

a sandy flat.

No. 19, 145. *Calyptridium Parryi* Gray
var. *Parryi*
Prostrate. Petals 3, dull white, ovate-
oblong, obtuse. Stamens 1 or 2.
(*Psilocalceae*).

No. 19, 154. *Festuca megalura* Nutt.
(det. Beecher Crampton, 8/77)
Grass.

No. 19, 146. *Orthocarpus purpurascens* Bth.

No. 19, 155. *Cryptantha intermedia*
(Gray) Greene

No. 19, 147. *Plagiobothrys tenellus*
Gray.

No. 19, 156. *Cryptantha intermedia*
Greene.

No. 19, 148.

Prostrate composite.

No. 19, 149. *Pectocarya penicillata*
A. D. C.

No. 19, 150. *Festuca octoflora* Nutt.

(det. Beecher Crampton, 8/77)

This grass in tufts in

— Drove south from Elsinore past Wild-
onias to Temacula, where on alkali flats
collected nos. 19, 157 to 19, 159, — glowing gold
fields. Thence drove east on Oak Grove road
2 mi., crossed bridge over Temacula Creek
on old road, and 1 mi. s. of bridge in edge
of foothills collected nos. 19, 161 to 19, 163.

No. 19,157. *Layia platyglossa* (F. & M.) Gray ssp.
campestris Koch. Rays yellow, tips
white. Salina flat. One mile n.
of Temecula.

No. 19,158. *Lasthenia*
Extensive colonies,
golden expenses, on flat with
the preceding.

No. 19,159.

With no. 19,157,
a less showy composite than 19,158.

No. 19,160. *Baccharis viminea* DC.
Stream bed Temescal Creek in
Temescal Valley.

No. 19,161. *Astragalus*
Temescal Valley, 1 mi. s.
of bridge over Temescal Creek, on
old road to Oak Grove.

No. 19,162. *Argemone*
Very marked coronation
calyx - lvs. In low hills 1 mi.
s. of bridge referred to sub no. 19,161.

This locality (19,161) is about 2 mi. e. of
Temescal village.

No. 19,163. *Pentstemon centranthi-*
folius With 19,161, in
sandy fields.

No. 19,164. *Ceanothus*
Greenish-white smooth

- barked main stems. 2 mi. s. of
Temecula, on Fallbrook road.

- Returned to Temecula from point on
Oak Grove road where I collected
nos. 19,161 - 19,163 (see bottom p. 445).

At this ^{collecting} point looking across the flat
of a tiny rincón valley to the other
side is a cabin of the Californian
pioneer type, a small cabin with
a door in front, a window on either
side, a window in the end, and
the inevitable lean to behind. Some
mice trees shelter its rear and
two tiny hills rise behind, wood-
covered and much diversified with
oak and cottonwood, the cottonwood

mostly on the lower part. Above the tiny hills rise the chaparral slopes of the mountain. It is a charming little bit - this corner of the valley.

At Tevescula turned south towards Fallbrook through a hilly gap between the Santa Anas and Palomar. Just over the San Diego County line, passes the hamlet of Rainbow where Parish once collected. Drove on through hilly farming country to Escordido. Put up for night at Hotel Ramey. The best eating place is Jenny Wren restaurant. In looking for local address of my former brilliant student, Carl V. Meyer, I applied to the local druggist (Roffe Drug Company). He was extremely courteous. Since there were several Meyer families and more than one Carl Meyer apparently, he directed me to the local water company whose officials, supplying water, would

Apr. 18, 1939

know. I thanked him for his kindness (because he took not a little trouble at a busy time) and handed him my card before departing. He glanced at the card and exclaimed: "Are you Professor Jepson?", insisted on my being seated, would not allow me to leave until he had finally settled the matter completely by telephone. His friendliness glowed and he made inquiries about many old-time professors at Berkeley and in the College of Pharmacy. He even inquired about Dr. H. H. Behr whose name he knew, though he had never met him. He was delighted to talk with me. A graduate of the University in 1907, his name is Jacobo, I think, because he was so-called by persons that came in to see him.

I called at Carl Meyer's incredibly tiny cottage on West Fifth Ave., off Broadway, the number being about 432. He was not at home but his wife, whom I had never met, so far as I recall, received me at the door and exclaimed: "Dr. Jepson"! She was much interested in my calling to see Carl. He had gone to San Diego with a load of farm produce from his father's farm. Oranges are so low in price this year that packing house prices will not pay cost of labor in picking. So he drives daily to San Diego. I suspect he peddles from door to door in these hard times. Carl Meyer was a brilliant student in botany and a man of real scholarly powers in every subject. He won Phi Beta Kappa and of course Sigma Xi. His

April 18, 1939

wife is Dorothy Doubt who took a Ph.D. with Professor N. L. Gardner (also).

From Escondido I drove over the hills, up, up, and then down into the San Pasqual Valley over the low hills, just before reaching the valley floor I collect nos. 19, 165 to 19, 1

400 ft. San Pasqual Valley, San Diego Co.
Apr. 18, 1939

No. 19, 165. *Pentstemon*

Cor. yellow, broadly cam.

Pinnulate with open throat. Densely branched bush 5 ft. h. Hill slope.

No. 19, 166. *Plagiobothrys nathanielii* Gray.
Cañon flat, dry ground.

No. 19, 167. *Amisnckia intermedia* F. & M.
Cor. orange-yellow.

No. 19, 168. *Diplacus puniceus* Nutt.
Margin of chaparral.

No. 19, 169. *Placchia viscida* Torr.
Cor. purple, forming beautiful colonies 5 to 20 ft. across on

"burns".

"No. 19, 170. *Sonchus*?

In the "wild", and apparently native. Very glutinous; very vigorous; 2 ft. h. at this time. Saw it again near Witch Creek, also in a wild spot.

Discarded - Not flowering
24, 1965."No. 19, 171. *Platystemon californicus*
Benth."No. 19, 172. *Chenopodium*"No. 19, 173. *Paeonia californica* Nutt.
ex T. & G."No. 19, 174. *Lupinus*

Cor. purple.

"No. 19, 175. *Cryptantha intermedia*
(Gray) Greene."No. 19, 176. *Gilia angelensis* Y. Grant
~~*multicaulis* Bth.~~

Habit, flower-clusters, color of corolla and its details exactly like the plant of Twin Springs, Tames-

cal Cañon, no. 19, 131. Corolla whitish or with a faint tinge of lavender.

Common. On "burn"

"No. 19, 177. *Ellisia chrysanthemifolia* Bth. * This nemophiloid plant has small campanulate corollas, white. Common. On "burn".

"No. 19, 178. *Lotus strigosus* Greene

"No. 19, 179. *Placelia laspida* Gray.
Hairs stinging. Corolla lavender! its dull whitish throat with sordid mottlings. "Burns".

"No. 19, 180. *Pterostegia dryarioides*"No. 19, 181. *Linaria*

Cor. Blue

"No. 19, 182. *Festuca bromoides* L.
(Det. Beecher Crampton, 8/77)

This grass is common.

No. 19, 182a. *Festuca megalura* Nutt.
(Det. Beecher Crampton, 8/77)

* = *Eucrypta chrysanthemifolia*
Greene

- No. 19, 183. *Calandrinia*
Corolla $\frac{1}{3}$ usual size.

"Burn".

- No. 19, 184. *Calandrinia*

Habit very different from the preceding (19, 183); corolla twice size the preceding but still much smaller than usual form in Vaca Valley. "Burn".

- No. 19, 185. *Phacelia viscida* Torr.

Cor. purple, the limb rotate, the throat with narrow-obovate yellowish-white spots with a purple ovate-acute spot imposed on lower part of the yellowish-white spot. "Burn".

- No. 19, 185a. *Sauicula*

- No. 19, 186. *Minulus brevipes* Benth.

Cor. clean yellow; folds of middle lobe of lower lip, (in throat, with a longitudinal band (on top of fold) of dense short erect hairs of

equal length.

- No. 19, 187. *Stylocline graphalivoides* Nutt. (19188)

This involid common on the burn. Erect.

- No. 19, 188. *Filago californica* Nutt. (19187)

This involid somewhat diffuse or ascending. Common on burn.

- No. 19, 189. *Orthocarpus*

corolla cor. pink-purple, or better crimson.

- No. 19, 190. *Lupinus hispidissimus* Benth. (19189)

Hairs stinging very sharply and difficult to be rid of. 2 to 3 ft. h. Very succulent. Burn.

- No. 19, 191. *Eucelia californica*

3 ft. h. Common. San Pasqual Cañon. Rays yellow.

- No. 19, 192. *Osmorhiza brachypoda* Torrey
Shady woods. San Pasqual Cañon.

- No. 19, 193. *Geonothus tomentosus* Perry
var. *olivaceus* Jeps. ??
Growing up the San Pas-
qual Cañon to Ramona, a shrub
in full flower stands on the right
bank of the road, inaccessible direct-
ly from roadway. It is a very
beautiful sight, stunning lively
blue flowers in profusion. Shrub
about 8 ft. h. I go up road
60 yards, work up a gully and
along hillside through very heavy
brush until reaching the individ-
ual. It is *C. cyanus* Eastw.,
I suppose.

I run easterly to Ramona, take
on gasoline and water for the car
and begin the journey through the
hills, ^{up and} towards Santa Ysabel. Near Witch
Creek road sta. I stop for lunch by
the way (see * next page).
and collect.

- No. 19, 194. *Geonothus leucodermis*
Greene

Flowers blue.

- At Witch Creek there is an old-time
hotel, an old stage station.

I run on and up to Santa
Ysabel where the open meadows are
gay with:

- No. 19, 195. *Ranunculus*

From Santa Ysabel I turn north
and, with the Volcan Mountain rising
on my right, easterly, run down
a cañon for several miles and
come out on the broad open valley
of Warner Ranch. The road ^(new-built) now
runs straight across it, cutting through
the little hill ridges like cheese.

^{see * p. 456.}
* From my lunch place there is a
fine view of Cuyamaca Peak, its
great blue bulk rising abruptly not
far away. For some miles back I have
seen well, and near, the three peaks,
Cuyamaca Peak, North Peak and
Middle Peak.

At Warners Hot Springs I continue northwesterly. All about Warners Hot Springs are colonies of *Artemisia tridentata* forming a dense even cover to the valley floors and flats, with splendid open groves of *Quercus agrifolia* rising from this level of gray, an all-satisfying sight for quiet but rich beauty.

* No. 19, 196. *Artemisia tridentata* Pursh.

Warners Hot Spgs., 3 to 4 ft. h.

By a winding and up road I drive through the hills from Lake Hemshaw and Warners Hot Springs and then down through the hills into the flat of Oak Grove Valley where I turn in at the Forest Service Camp Ground and camp over night, at Oak Grove road station.

Next morning I walk along the road a tenth mile to the old Oak Grove stage station (Butterfield

stage) where the woman in charge cooks me a fine breakfast: grape-fruit, mush and oceans of fresh cream, bacon and eggs and fried potatoes, graham biscuits, very light and nice, and butter and blackberry jam-preserver; milk.

I fell to talking with the woman proprietor. The adobe station building has its old fireplaces as built by the Indians and is furnished with old furniture - sound and good of the olden time. The woman is well-educated and has much refinement and appreciation of nice things. Her father was a Stevenson descended from Geo. Stevenson the inventor; her mother's people were Shelleys descended from Perry Byss Shelley. On her husband's side there is descent from the Livingstones, Declaration of Independence signers. Her name is Kate E.

Gearhart. The postoffice address for Oak Grove is Aguanga. Mrs. Gearhart said she was one of fourteen children in her family. (See p. 428).

The vegetation at this point consists of an open grove of *Quercus agrifolia* rising from a closed cover of *Adenostoma sparsifolium*, *A. fasciculatum*, *Ceanothus* no. 19, 19, *Garrya* sp., *Artemisia tridentata*.

Directly sw. rises Aguanga Mtn. chaparral-covered to its highest ridges but with conifers running high in a few deep cañons. Palomar Mtn. is out of view west I judge.

"No. 19, 197. *Ceanothus cuneatus* (Hook.) Nutt.
5-6 ft. h.

"No. 19, 198. *Rhus trilobata* Nutt.
Valley flat. Spreading bush 2 1/2 ft. h.

"No. 19, 199. *Adenostoma sparsifolium*
Common, 12 to 14 ft. h.

Less abundant than the abundant *A. fasciculatum* (short-leaved form) ^{which is here} mostly 5 to 7 ft. high.

"No. 19, 200. *Palmaria californica* Nutt. ^{ex T. & G.}
Petals dark purple.

Valley flat. Petals closely curved in over the numerous stamens, tips closely inflexed, but not wholly covering stamens.

"No. 19, 201.

This umbellifer has very glossy bright green leaves. Bushy slope, 2 mi. n. of Oak Grove. Suggests Ambrary in its leaflets.

"No. 19, 201a. *Haplopappus linearifolius* var. *interior*

(Cor. Jones) Bushy hill slope. Rays 6, 6, 6, 7, 6, 6, 6, 8, 6, clear yellow. 2 mi. n. of Oak Grove

"No. 19, 202. *Oenothera*

Bushy slopes, in opens. 2 mi. n.

of Oakgrove.

No. 19, 203. *Pectocarya penicillata*

A. D. G.

2 mi. N. of Oak Grove
San Diego Co.No. 19, 204. *Gilia inconspicua*

Dougl. Corolla lavender, closed

or half-closed in full mid-

day sunshine Cor. pale bluish-white,
its lobes apiculate

Aguanga, S. of.

No. 19, 205. *Salvia columbariae*

Bth. Aguanga. Sandy flat.

No. 19, 206. *Phacelia*Cor. purple, open bell-shaped.
Aguanga.No. 19, 207. *Sambucus*

8 ft. h. Aguanga

No. 19, 208. *Diplocis linearis*Greene. Rock-pile outcrop. Corolla
buffskin color, large! Anthers
and calyces large. Aguanga.- *Salvia carduacea*.- *Rumex hymenosepalus*.No. 19, 209. *Clamatis*

Rock-pile outcrop. Aguanga.

No. 19, 210. *Melica imperfecta* Trin.

(det. Beecher Crampton, 8/77)

This grass grew in
heavy stools, rocky brushy slope.
Aguanga.No. 19, 211. *Lupinus*Corollas faintly-
pinkish white, aging pinker on
drying. Sandy flat.- *Salvia apiana* Gray. See p. 425, ante.- *Salvia carduacea*.- *Rumex hymenosepalus*.No. 19, 212. *Lathyrus splendens*A wonderful climber,
the plants climbing to the top of
Chamise and other shrubs and
throwing forth its marvelous
garlands in contrast to its rigid
or dull host shrub. Dripping
Spring.

"No. 19, 213. *Eriodictyon crassifolium* Bth. Colony in gully.

Corolla pink-lavender. Dripping Spring (westerly from Higger Valley about 3 miles). 1500 ft.

"No. 19, 214. *Asclepias*

Rich maroon-purple corollas in contrast to woolly indument, makes its clusters a stunning sight in the brushy opens. Near bridge over Temecula Creek, Oak Grove road, 8 mi. e. of Temecula Low hills. 1300 ft.

"No. 19, 215. *Castilleja*

Bracts crimson. 2 1/2 ft. h. With preceding. 1300 ft.

Drove on into the evening and put up at Hotel Valencia in Anaheim. Best eating place is the Oyster Loaf Cafe.

- Drove towards Los Angeles.

"No. 19, 216. *Lasthenia*

Extensive fields yellow with it.

Norwalk.

- Stopped the night at Altadena with the Pearsons.

L.A. Co. San Fernando, Apr. 21, 1939.

"No. 19, 217. *Microseris linearifolia*

Sandy flats.

"No. 19, 218. *Orthocarpus purpurascens* Bth. Sandy flats.

"No. 19, 219. *Chaenactis*

Sandy flats.

"No. 19, 220. *Cryptantha intermedia* Greene. Sandy flats.

"No. 19, 221. *Layia platyglossa* ssp. *canadensis* Keck
Sandy flats. Rays yellow, white tips

San Luis, Apr. 21, 1939.

Los Angeles County. Sandy flats.

"No. 19, 222. *Plagiobothrys canescens* Bth.

"No. 19, 223. *Orthocarpus purpurascens* Bth.

466

Saugus, Los Angeles Co.

1170 ft. April 21, 1939.

No. 19, 224. *Baeria*

No. 19, 225. *Oenothera californica* S. Wats.
 - *Sandersonia rigida* Bth. Solid
 golden yellow masses of flowers
 near the Bouquet reservoir.

Leona School, Leonis Valley, Apr. 21,
1939, Los Angeles Co. 3200 ft.

No. 19, 226. *Lupinus*

Abundant.

No. 19, 227. *Gilia latiflora* Gray.
 5500 ft. *G. davisii* (Muhl.) A. + V. Grant
 Cor. with ^{lavender-tips to lobes} whitish eye,
 drying purple. Yellow spots in
 throat.

No. 19, 228. *Lomatium*
 Hills, Leonis Valley.

No. 19, 229. *Lomatium*
 Hills, Leonis Valley.

- *Eschscholtzia californica*. The
 colony display here and there on
 Leonis ridge or about Fairmount in
 the Mohave, 5 to 10 or 20 acres,
 like nullin mat in the sunshine,
 pure stands.

Fairmount, Mohave Desert

2780 ft.

Apr. 21, 1939

467

L.A. Co.

Porter

No. 19, 230. *Matricaria* ^{*matricarioides* (Less.)}
maritima Benth. dry
 parched roadside.

No. 19, 231. *Mentzelia*

Cor. lemon-yellow!! with

orange eye. Sandy flats, abundant.

No. 19, 232. *Astragalus*

Stems many from base, ro-
 tately decumbent! Cor. yellowish
 in bud, dull white in anthesis!
 Sandy flat.

No. 19, 233. *Pectocarya penicillata*
 A. DC. Sandy flats.

No. 19, 234. *Platystemon*
 Sandy flats. Abundant!

No. 19, 235. *Amsinckia tessellata*
 Gray. Mile-wide colonies all
 the way west to Quail Lake.

- *Astragalus tridentatus* Pursh. I saw
 none on Leonis ridge (cf. p. 466)
 nor Leonis Valley. The cover is *Eri-
 gonum fasciculatum* or a form of it
 and *Chrysothamnus* (gray
 bushes); nor any in the Mohave
 Desert on this trip.

Neenach School, Antelope
Valley, w. Mohave Desert,
(Near Yuasa) 3000 ft. Apr. 21, 1939. Sandy flats.
Grass.

No. 19, 236. *Pectocarya paniculata*
DC. var. *heterocarpa* Jtn. = *P. heterocarpa* Jtn.

No. 19, 236a. *Pectocarya linearis* var.
perocula Jtn.

No. 19, 237. This involucrid appears
to be a great rarity at this
locality. *Stylocline felaginea* Gray

No. 19, 238. *Layia glandulosa* (Hook.) H. & A.
Rays white.

No. 19, 239. *Pectocarya peltosa* Gray

No. 19, 240. *Sarcobatus* *chrysotoma* J. & M.
grows because
very shrubby-hairy. Abundant.

No. 19, 241. *Haplopappus lineari-*
folius var. *interior*
(Cov.) Jones
Bush 2 1/2 ft. Rays yellow.

No. 19, 242. *Juniperus monosperma*
californica Carr. 14 ft. h.
Det Vasek 11/6/62

No. 19, 243. *Gilia parryae* Gray.
Linanthus

No. 19, 244. *Asclepias*

Stems many, diffuse, from a
central root.

Co., Apr. 21, 1939.

Traveling west from Fairmount
towards Tejon Pass, the road ^(See p. 471) ~~crosses~~ ^{crosses} the
foothills of Sawmill Mountain
which rises directly above the
road southward. Coming out of the
Mohave Desert, where there are no
oaks, it is interesting to see a
band of oak woods in the foot-
hills of Sawmill Mountain. These

oaks are so near the road I
stopped the car and climbed
the hill slope to them. The trees
are all *Quercus dumosa* with
white trunks and broad rounded
crowns. No two trees have quite the
same leaf pattern, but all within
the *dumosa* character. Trees 20 to 30
ft. h., trunks 1 to 2 ft. diam. Above
the oak band in the foot-hills (cont.)

No. 19, 245. *Haplopappus lineari-*
folius var. *interior*
(Cov.) Jones Bush 1 to 1 1/2 ft. h. Rays
yellow. Quail Lake; Liebre Mts.

The mountain is chaparral-covered to the top. After passing Summit Mountain one comes to Liebre Mountain which is relatively naked and and without any oak band.

→ definite I run on and enter Teyon Pass where is a fine stand of *Quercus lobata* on the valley floor. Go on to the head of Grapevine Cañon, where at its head, in the pass, lies Old Fort Teyon. There are considerable remains of the buildings. What I take to be officers houses, built of adobe and white-plastered inside, have fire-places and were comfortable habitations. The barracks building is a considerable one and well-built in the same manner (Cont. p. 471).

→ drove into Oakhurst and put up at Hotel DeLeon. St. Francis Cafe = best eating place.

All the buildings have been subject to much abuse and neglect and are now in utter disrepair. The area of the fort occupies a little rim extending westerly from the Pass proper. It is wooded with much scattered *Quercus lobata*, mostly good-sized specimens.

- Cont. p. 472 -

* Cont. from p. 469 at *

Along this road, running westerly, one has a very fine view of the great peaks of of Frazier Mountain, a long high rounded mountain, with Mt. Pinas showing behind it. These two rise high the sky, far above surrounding terrain of ranges, and block completely the way westward.

The largest, the one measured by W. H. Brewer and A. V. Coville, stands about one hundred yards northwest of the most westerly of the fort buildings - at least of those now standing. It is just outside the present wire-fence enclosure of the area - a few feet. It is 90 feet high; the trunk is 23 feet 2 inches in circumference at 4 feet. The trunk is 25 feet high before branching into the crown but one smaller branch is given off on the southwesterly side at 12 feet, where there is also one quite small dead limb. The crown is rounded but not of the broad spreading type so common in *Quercus lobata*.

A wooden tablet on the main building recites the following: Fort Teyon, estab-

lished Aug. 10, 1854. Abandoned Sept. 11, 1864. First Lieutenant Thomas Castor and 13 soldiers. Co. A. First Regiment, U. S. Dragoons.

Northwily from the main building is a *Quercus lobata* tree beneath which Peter Lebe, killed by a bear, Oct. 17, 1837, was buried by his companions. A wooden tablet recites this.

The name of Lebe, and date of death was carved in the trunk of the oak by his companions. This portion of the trunk has been removed by a local organization in Bakersfield.

I drive to Bakersfield and stop the night (cf. Bottom p. 470) and go on next morning to Hanford, turn west across valley. At Garwood Corners (at or near Wasco) there comes in extensive colonies of *Atriplex* ^{probably *sp. n.* & *sp. n.*} ~~poorly~~, a pure stand, continuous and regular for miles north and south, somewhat open since not forming a closed cover, but giving such ^{an} appearance in looking over it as a whole. It continues this vast colony, west to Semitropic School and on west to a point where low-lying alkali begins. The colony is ^{a higher} on a sandy plain where is some alkali. On the south side of road many areas have been cleared of it and luxuriant crops flourish. The

point where the colony stops is about 4 mi. E. of Lost Hills road sta. At and west of Lost Hills sta. it comes again as a much scattered and very thin stand to Blackwells Corner and west of Blackwells nearly to Antelope Valley.

No. 19, 246. *Hemizonia pallida*

Keck Sandy plain. Leds.

No. 19, 247. *Monolopia Nuttalliana* *

Low wet spot.

No. 19, 248. *Veronica peregrina*

Low wet spot

No. 19, 249. *Lasthenia chrysantha*

X. *L. glabrata* Low wet spot.

No. 19, 250. *Radiola palustris* (L.) Moench.

Rorippa islandica var. *occidentalis*
This crucifer in a wet spot.

[* Nos 19, 247 to 19, 250 in a low wet spot ^{about} 4 mi. E. of Lost Hills]

Haplopappus acradenius
"No. 19.251. (Greene) Blake? (sterile)

This composite bush, $1\frac{1}{2}$ to 2 feet high, forms a colony of about 25 acres in a field of the valley flat south of the road, westerly from Black Corners. It is a continuous colony, somewhat open, but the individuals not widely spaced. Mixed with is a great deal of *Astragalus* (no. 19.252) as a subordinate but well distributed over the 25 acres.

"No. 19.252. *Astragalus*

Stems several to many from the base, very erect clumps. I have never before, I think, seen so much of any species of Loco Weed in one place. See p. 477.

Driving west from Blackwells Corners there looks in a big way towards the south end

of the Diablo Range, a large mountain peak, Orchard Mountain. I travel on up Antelope Valley, past the Sawtooth Ridge, a low ridge with jagged little peaks and rocky points, into Polaris Pass, which seems the lowest of any Inner Coast Range Pass I know. The ^{South} *Astragalus* (no. 19.252) continues west into the Pass and over all the hillslopes for several miles. There is a vast amount of it on northeast slopes in a scattered stand. In Polaris Pass one is but a few miles from Orchard Peak.

✓ No. 19, 253. *Alimur*

Perianth dark crimson -
a fine color. The plants grow
on a steepish north slope of
adobe soil, in the Pass, the
adobe cracked into hard blocks.

The below ground stem decreases
rapidly in size and become
filiform and fragile. In
attempting to dig down in the
hard adobe blocks are, invariably,
in attempting to trace the
stem down to the corn, breaks
off the tender stem and so
loses the corn. In only one
case on a steep slope, where
the corn was near the sur-
face, did I get a pair of
corns.

✓ No. 19, 254. *Achyrochaena mollis*
Sch. Adobe soil.

✓ No. 19, 255. *Clarkia*
foetida

Crimson corolla, purple

"eye". Adobe soil.

✓ No. 19, 256. *Poa scabrella* (Thurb.) Benth. ex Vasey
(Det. Beecher Crampton, 8/97)

This grass grows in
hard adobe, north hillslope.

Cholame Valley, Apr. 22, '39.

E. San Luis Obispo Co.

I run as through the hills from
Polonio Pass and soon enter
Cholame Valley. I turn north
on the country road from the
main highway a little east of
Cholame road sta. This is
old and very delightful ground
with its beautiful wooded
foothills on the west side; but
the year is a dry one and
I collect only the following:

✓ No. 19, 257. *Layia platyglossa* (P. & M.) Gray ssp.
confertifolia Hook.
Rays white, yellow below.

✓ No. 19, 258. *Amsinckia intermedia*
P. & M. Cor. small, orange.

I run on northerly through Cholame Valley; then climb a little through low hills and come into the beautiful Parkfield Valley. These two valleys, Cholame Valley and Parkfield Valley, are in astonishing contrast: one in the main treeless; the other wonderfully wooded with *Quercus lobata*; one mainly alkaline, the other richly alluvial. I stop at Parkfield and enjoy its lovely setting - the primitive village street and the fine oaks rising in real grandeur about it. I go to the village blacksmith shop, watch the smith shoe a white horse for a young rancher, and learn from the rancher

that Jack Greenough is still a resident of the village.

This time I cannot get gasoline for the car here and so I give up proceeding northerly by Stone Canyon and go westerly. I climb by the grade over the considerable ridge west of Parkfield Valley. On the map of San Luis Obispo County, of the Automobile Club of Southern California, this ridge is called the "Cholame Hills".

At the very summit I chance into a surprise. A small area at a ^{sharp} turn in the road has been ^{shown} fenced off as a memorial to Bishop William Ford Nichols, an Episcopal Cross of concrete about 12 feet high erected, and a tablet affixed to the

shaft as a memorial to Bishop Nichols. Since the road is a mere trail or little more, since ^{the wagon} the region is wholly wild and remote, — it is certainly unexpected to run onto a memorial of this kind in this place.* The tablet, which is very interesting, and bears a bit of noble verse as to the wayside cross, recites that the memorial was erected by F. J. Scott.

I run on through ^{the} hills, in rather high pleasant country, beautifully wooded and in one mile stop to collect the

* The spot is admirably chosen. One views the inner Coast Range, the beautiful Parkfield Valley, the hills west, and far west the Santa Lucia Mountains.

flowering shrubs:

No. 19, 259. *Eriodictyon tomentosum* Bth Abundant, 8 ft. h. It continues down mountain side into Vineyard Cañon. In Vineyard Cañon it is common through the whole cañon save at the very lowest part.

No. 19, 260. *Leucodermis glauca* Greene ^{leucodermis} Shrubs many-stemmed, vase-wise, rounded crown, 12 to 15 feet high.

No. 19, 261. *Sambucus glauca*

No. 19, 262. *Penstemon centranthifolius*

No. 19, 263. *Poa scabrella* (Thurb.) Benth. ex Vasey ^{Det. Beecher Crampton, 8/77} This grass in clumps in hard soil.

No. 19, 264. *Micropus californicus* F. & M. This inuloid in dry soil.

No. 19, 265. *Plantago*

No. 19, 266.

This tiny composite appeared rare, but search soon determined that it is obscure rather than really rare. At first it seemed as if I might get but a single individual but casting about turned up several small colonies each with two to a half-dozen individuals.

Nos. 19, 262-19, 266 were collected at Bishop Nichols Monument; the shrubs (nos. 19, 259-19, 261) on the ridge about one mile westerly on road to Vineyard Cañon.

- I drive down through the interesting Vineyard Cañon to San Miguel, take our motor fuel

and water, go on to Salinas and stop the night at the Caminas Hotel. Breakfast next morning at the Rodeo Grill, take road to San Jose.

No. 19, 267. *Lupinus nanus* Dougl.
Santa Rita, 3 mi.

n. of Salinas.

No. 19, 268. *Ranunculus californicus* Bth. Yellowing swales and low fields. San Juan. Adob.

No. 19, 269. *Carex*
Adob. Low swale. San Juan.

No. 19, 270.

This imbricoid in hard adob.

Nos. 19, 268 to 19, 270 collected about 2½ mi. n. of San Juan.

- Reached Berkeley at 11:00 o'clock a.m.

- This is Commencement Week in Berkeley. Tomorrow is Commencement Day. The town is crowded. Pushing through the throngs on Telegraph Avenue near Sather Gate I was stopped by a good looking young-middle-age man who said: I am Arthur G. Hazard, one of your former students in 1914. I am in the nursery business at Vista in San Diego County. All the botany I use in this work I owe to you!!"
He has a daughter graduating tomorrow. - May 19, 1939.

- Dr. C. L. Shear is here in Berkeley from the U. S. D. A., Washington, D.C. He has a son, S. W. Shear, Agricultural Economist, in the College of Agriculture who lives at 600 Woodmont Ave., Berkeley, California. He called yesterday, but I was not in my laboratory. Today I had him to luncheon with

May, 1939

me. See note of this luncheon talk in "Notes on the Botanists of California and W. Am." vol. 2, p. 94. Shear said: "There is no encouragement now given to scientific research in Washington. The whole idea of the 'New Deal' is to promote the social projects of the New Deal. A plant physiologist in the Department who expressed some casual distrust of certain New Deal projects was let out!"
- 6-1-39.

- Dr. Harold St. John just in from Honolulu, called this afternoon. He is driving east to the Gray Herbarium; he is visiting professor teaching at Yale next year; goes to the Congress at Stockholm in 1940, thence back to Honolulu. - 6-7-'39.*

- Dr. Helen M. Gilkey, Oregon State College, one of my former students, called this noon. I took her to luncheon. She is soon to go back to Corvallis. Will go on an expedition back of Blue mts. in nr. Oregon.

- Professor Margery C. Carlson, Northwestern University, Dept of Botany, cytology, just called. On a trip through the western U. S. Is a great friend of my former student, Dr. Alice M. Otley, of Wellesley College.

- Just called Dr. Leo Hitchcock of Univ. of Washington. We had some lively talk for half an hour. He is in the field with a party of students. Has been in the Siskiyou, Marble Mt. country, Salmon Alps. Is

now, after seeing the exposition, bound eastward for field work.
- July 19, 1939.

- Called about a week ago Prof. Bassett Maguire of the Univ. of Utah at Logan. Extremely pleasant red-haired young fellow who has been at Cornell Univ. and brought word from my friends there. He has used my Mammal a good deal; he was much struck with the account of rudensian areas. In his work on America he says that my areas as mapped fit almost exactly his maps of species as occurring in California. We agreed that Mr. Jure's *Carbarium* should have remained in Utah, that in Utah it would have been a monument to him.

- July 26, 1939

No. 19, 270. *Filix*

Silver Linden. From
row in old-time (former) Hille-
gass Garden, College av., Campus,
Berkeley.

Cont. from p. 422, note. Actu-
ally he knows no botany
at all in the sense of scien-
tific botany. He was sent by
the U. S. Park Service to attend
me in Johnson Cañon, Pana-
mint Range, April, 1940. He has
a remarkable gift for remembering
Latin names which he is given
by Gilman and others and is
an excellent observer of plants in
a folk way, so that he applies
the right name to the right plant
usually. When he was with me in
the field, I should think an
interesting matter (Cont. p. 494)

- Went to the meetings of the
Pacific Association for the
Advancement ^{Division} of American Sciences at
Stanford University, June 26-
July 1, 1939. Met W. E. Castle of
Harvard University (Genetics), now
retired and living in Berkeley.
Said Castle: "Do not do com-
mutter work too well, if you
are a scholar with a scholar
interest was an injunction
made to me by Josiah
Royce". Ivan Sack, U.S.
Forest Service, introduced
himself. It seems I had
met him somewhere pre-
viously. I met Francis E.
Lloyd at the Carnegie
Laboratory. He wished me
to collect for him seed of
Eriodictyon californicum. It
is a very common shrub

most anywhere in the Coast Range higher slopes and I should have thought he could well have gotten it for himself. However he was anxious about it,

wrote me a letter in reminder. So one day in Lake Co., in Sept., I collected a quantity of seed, made up a parcel and put it in the mail to him at his Carmel address with a letter of advice. All of which is some trouble.

There has ^{been} no acknowledgment. - Sept. 19, 1939. cf. further notes on the Stanford meeting in my private journal, "Men and Manners", ^{vol. II, p. 363.} July, 1939. Wm S. Lawrence, Prof. of Zoology,

Oregon State College (Dept. of Botany) I took to the Carnegie Laboratory on a sightseeing trip. We had lively discussions with Dr. J. C. Claxson and Dr. ^{P. D.} H. C. Lawrence is a keen anto-gonist.

- Private collections:

Dr. E. C. Van Dyke has made a gift of his insect collection (life-time work) to the Cal. Academy of Sciences. He has been for near 30 years in the Division of Entomology, Calif. In an announcement of the Academy received c. Sept. 1, 1939, it is stated Dr. Van Dyke has given his entomological library to the Academy. Also the Academy has received the botanical library of Miss Alice Eastwood as a gift.

Cont. from bottom p. 490
 of morphology in the flower
 of some native plant which
 I thought he could grasp
 - but the matter (rather simple)
 stirred no interest in
 his mind, struck no spark
 ignited. It required a little
 thought - and high school
 students do not like to
 think. But he has naturally
 a fine memory and it is
 no effort to him to use
 it. Like many young fellows
 he has, in the matter
 of language, reduced his
 mind to poverty by use of
 of profanity. Everything is
 "damn". He cannot accurately
 describe or refer to anything
 - it is always "damn". In
 short he has no vocabulary

of English, because "damn"
 suffices for a thousand
 words of a thousand different
 shades of meaning.
 - July 18, 1940 cf. vol. 39,
 p. 169.

- Cont. from p. 375, Montezol
 ranch. Went to the Diamond
 Jubilee of the ranch, east
 side of Mount Saint Helena,
 Livmore family. See my
 letter to Adeline Frederick,
 vol. 42, p. 217. (Gipsom Correspondence).

496

497

HAMMER
BOND
MADE IN U.S.A.

498

499

- Weideman, R. A., Superintendent.
- Shoemaker, Fred., Landscape Man.
- Berriman, Clyde. Assistant
at Institute. Nursery work.
- Cumming, W. P. Field Work.
- Liddicoet, Alfred. Institute.
Nursery Work.
- Miner, . Construction.
- Austin, Lloyd, Genetics.

Placerville

- Rev. Harold G. Morehouse, Pastor
Eldorado Co. Federated Church.
- Lilley, County Agr. Agent.

- Escondido. Hotel Conney. \$1.00
- Santa Barbara. Hotel Pauley. \$1.50
- Anaheim. Hotel Valencia. \$1.00
- Corona. Hotel Kewy. \$1.00

Field Notes

- Los Angeles addresses.

Orin Thacher, 5077 Shafter av., Eagle Rock.

- Mrs. W. Clokey, 1635 Laurel st., South Pasadena.

Travertine Canyon

Travertine Canyon.

Shall Saw. Sta

Highway 99

av. 66

Elephant Trees. Up $2\frac{1}{2}$ mi. from X-roads; climb steep cañon to left; trees are about $\frac{1}{2}$ mi. from road.

(cf. Scott & Haselton, 11-25-38.)

- *A. missouriensis*. Orin S. from Diamond Spgs. on Hollow Road past a dance pavilion to an old mine shaft; here a trail leads S. about $\frac{1}{2}$ mi. to first fork of Montezuma Creek. Found dominant on S. slope (south-facing) of ridge below left fork.

- Stanislaus Natl Forest. Letter dated 30 June, July 14, 1915, signed by J. V. Wulff, Acting Forest Supervisor, addressed to Mrs. Katharine Brandegee, Botany Department, University of California, Berkeley, Calif.

- Frank A. Thacker, Senior Agriculturist, U. S. Natl Research Garden, Indio.

- Mr. Coon, Warden, Mt. Diablo.
(Mr. Blairdell, former Warden)

